ST-S590ES

SERVICE MANUAL

AEP Model

SPECIFICATIONS

FM tuner

Frequency range	87.5 - 108 MHz
Antenna terminals	75 Ω unbalanced
Intermediate frequency	10.7 MHz
Sensitivity	(mono S/N 26 dB) 10.3 dBf, 0.9 µV/75 Ω (stereo S/N 46 dB) 38.5 dBf, 23 µV/75 Ω
Usable sensitivity	10.3 dBf, 0.9 µV/75 Ω (IHF)
Signal-to-noise ratio	(at 40 kHz deviation) 80 dB (mono) 76 dB (stereo)
Harmonic distortion	WIDE 0.03% (mono); 0.04% (stereo) NARROW 0.05% (mono); 0.07% (stereo)
Frequency response	15 Hz - 15 kHz, (±0.2 dB)
Separation	60 dB (at 1 kHz)
Selectivity	(at 400kHz) WIDE 80 dB NARROW 90 dB (at 300kHz) WIDE 45 dB NARROW 70 dB
Output	(at 40 kHz deviation) 600 mV

AM tuner

Frequency range	Italy MW: 522 - 1.611 kHz (9 kHz step) LW: 144 - 288 kHz (1 kHz step) Other MW: 531 - 1,602 kHz (9 kHz step) LW: 153 - 279 kHz (1 kHz step)
Intermediate frequency	450 kHz
Usable sensitivity	(with AM loop antenna) MW: 250 µV/m LW: 700 µV/m
Signal-to-noise ratio	54 dB
Harmonic distortion	0.3%
Selectivity	32 dB

General

Power requirements	220 - 230 V AC, 50/60 Hz (adjustable to 240 V AC by Sony personnel)
Power consumption	14 W
Dimensions	Approx. 430 mm (W) x 85 mm (H) x 345 mm (D) (17 x 3⅜ x 13⅝ inches)
Weight	Approx. 4.0 kg (8 lb. 13 oz.)
Accessories supplied	Remote control cord (1); Connecting cord (1); AM loop antenna (1)

Design and specifications are subject to change without notice.

MICROFILM

FM STEREO / FM-AM TUNER

SONY®

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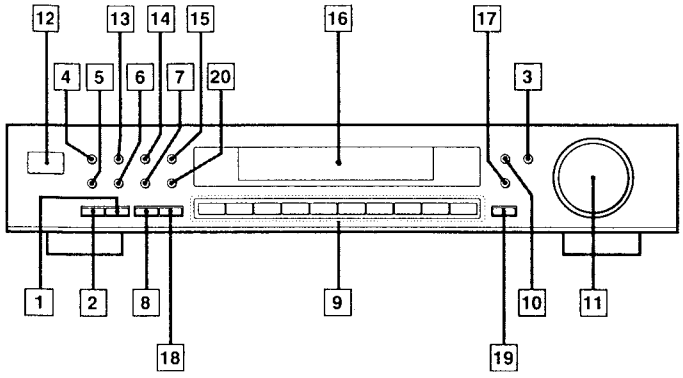
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
GENERAL

This section is extracted from instruction manual.

Identifying the Controls



1 RDS button (46, 48)
2 AF button (46)
3 PTY button (48)
4 ANT button (10)
5 ANT ATT button (24)
6 IF BAND button (24)
7 MUTING button (22)
8 MEMORY button (26, 28)
9 Preset buttons (12, 26, 30, 36)
10 TUNING/PRESET button (16, 18, 32, 34, 44, 52)
11 TUNING/CHARACTER/PTY SELECT knob (16, 18, 26, 32-36, 44-52)
12 Power switch
13 CHARACTER button (36)
14 DISPLAY button (30, 44)
15 DISPLAY MODE button (12)
16 Display window
17 TUNE MODE button (16, 18, 28, 32, 34, 44, 48, 52)
18 BAND button (16-20)
19 SHIFT button (26, 30, 36)
20 FM MODE button (24)

(The numbers in parenthesis indicate the page(s) where the control is described.)

SECTION 2
ADJUSTMENTS

• Refer to Adjustment Location on page 6.

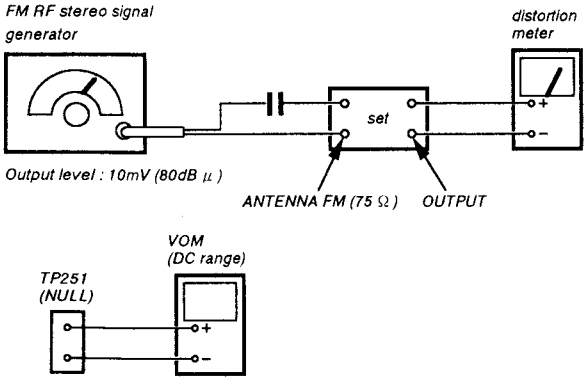
Note : As a front-end (FE101, 421 etc.) is difficult to repair if faulty, replace it with new one.

FM SECTION

• Standard Setting of FM Stereo RF Signal Generator.

STEREO STANDARD SIGNAL	MONAURAL STANDARD SIGNAL
Carrier frequency : 98MHz Modulation : Audio 1kHz, 16.25kHz (21.7%) deviation Subchannel 38kHz, 16.25kHz (21.7%) deviation Pilot 19kHz, 7.5kHz deviation (13.3%)	98MHz 1kHz, 40kHz deviation (53%)

FM Discriminator Adjustment (NULL and MONO Distortion)

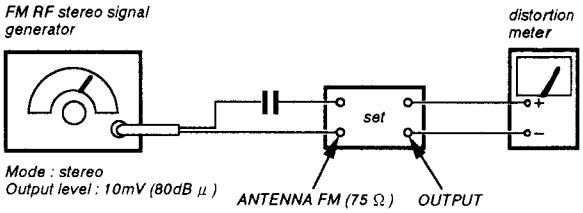


Procedure :

1. Tune the set to 98MHz.
2. Adjust T252 for 0V reading on the VOM. ·····NULL
3. Adjust T253 for a minimum reading on the distortion meter. ····· MONO Distortion
4. Repeat the adjustments of 2 and 3 several times.

Note : When replacing the ceramic filter, perform this alignment.

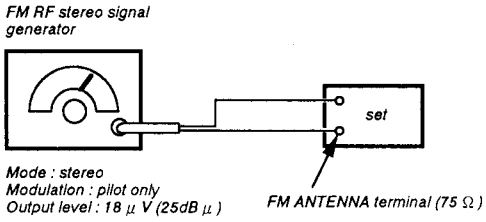
FM Stereo Distortion Adjustment



Procedure :

1. Tune the set to 98MHz.
   Set SSG output level to 80dBμ
2. Adjust IFT in FE101 for a minimum reading on the distortion meter.

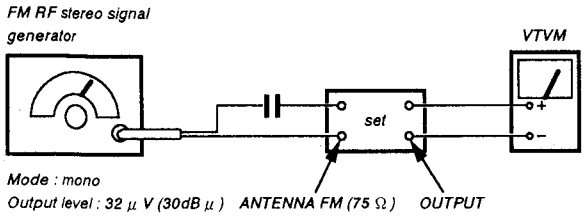
FM Stereo Indication Lighting Level Adjustment



Procedure :

1. Tune the set to 98MHz.
   MUTING "OFF ", FM MODE "AUTO STEREO"
   Set SSG output level to 25dBμ
2. Adjust RV251 to the place where "STEREO", "TUNED" indication lights.

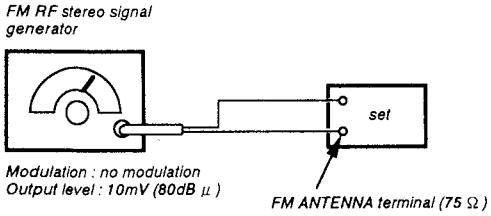
FM Muting Level Adjustment



Procedure :

1. Tune the set to 98MHz.
2. Push the MUTING switch and put on the light the "MUTING" indicator in the fluorescent display.
3. Set SSG output level to 32 μ V (30dB μ).
4. Adjust RV252 so that the reading of VTVM becomes within 25 μ V (28dB μ) – 40 μ V (32dB μ).

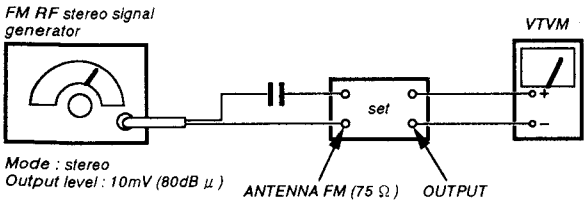
FM Signal Level Adjustment



Procedure :

1. Tune the set to 98MHz.
2. Push the display button to change the display mode for signal strength indication.
3. Adjust RV221 to the place where level 10 in the signal strength bar indicator lights and "75dB" indication lights on fluorescent tube.

FM Stereo Separation Adjustment



Procedure :

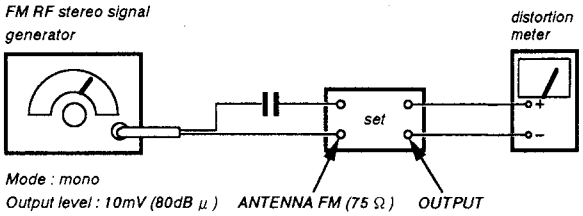
FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV301 minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV 301 for minimum reading.

L-CH Stereo separation : Ⓐ−Ⓑ

R-CH Stereo separation : Ⓒ−Ⓓ

The separation of both channels should be equal.

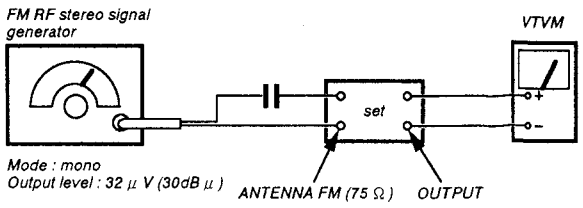
FM Narrow Distortion Adjustment



Procedure :

1. Tune the set to 98MHz.
2. Push the IF BAND switch and put on the light the "NARROW" indicator in the fluorescent display.
3. Set SSG output level to 80dBμ
4. Adjust RV232 for a minimum reading on the distortion meter.

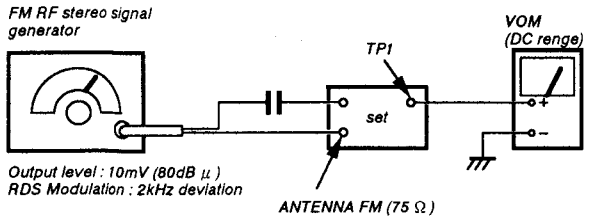
FM Narrow Gain Adjustment



Procedure :

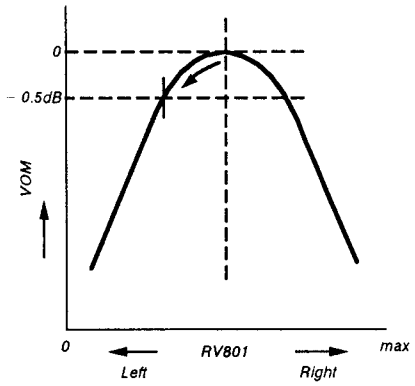
1. Tune the set to 98MHz.
2. Push the IF BAND switch and put on the light the "NARROW" indicator in the fluorescent display.
3. Set SSG output level to 32 μ V (30dB μ).
4. Adjust RV231 so that the reading on VTVM becomes within 25 μ V (28dB μ) – 40 μ V (32dB μ).

RDS, BPF Adjustment

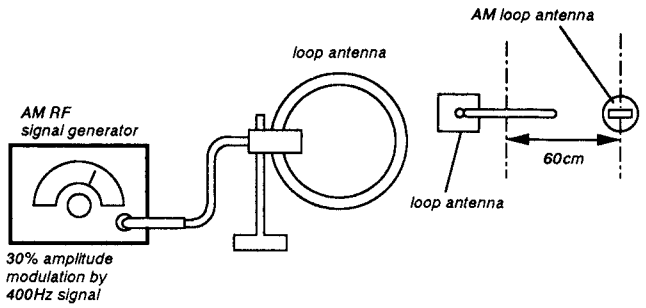


Procedure :

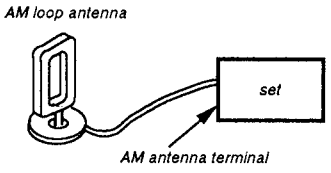
1. Tune RV801 to counterclockwise (left) and set the level below 0.5dB than maximum reading on the VOM. (refer to below drawing.)



AM SECTION



Carrier frequency : 216kHz (LW Band)



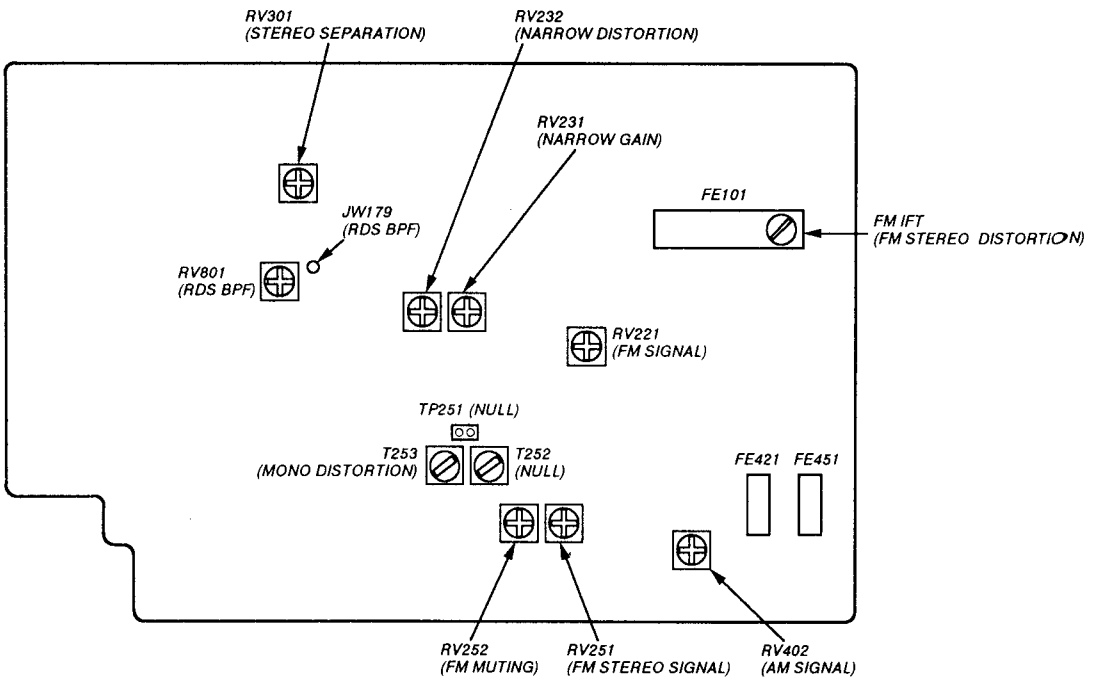
dBμ /m = (SSG output level) − 26dB

AM Signal Level Adjustment

Procedure :

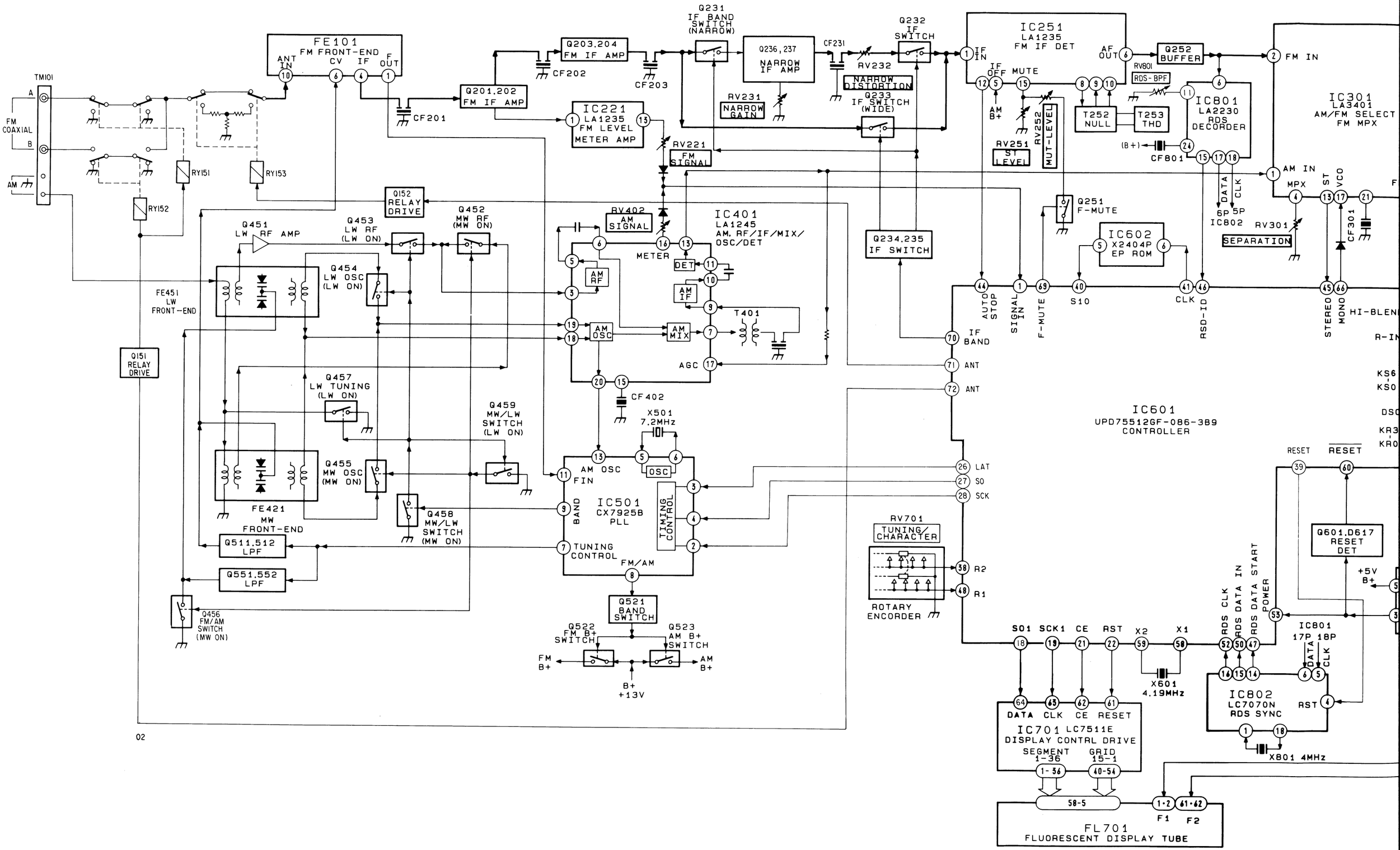
1. Set SSG output level so that antenna input level of the set becomes 5.0mV (74dBμ /m).
2. Adjust RV402 to the place where level 10 in the signal strength indicator turns from dark to light.

Adjustment Location : TUNER BOARD (Component Side)

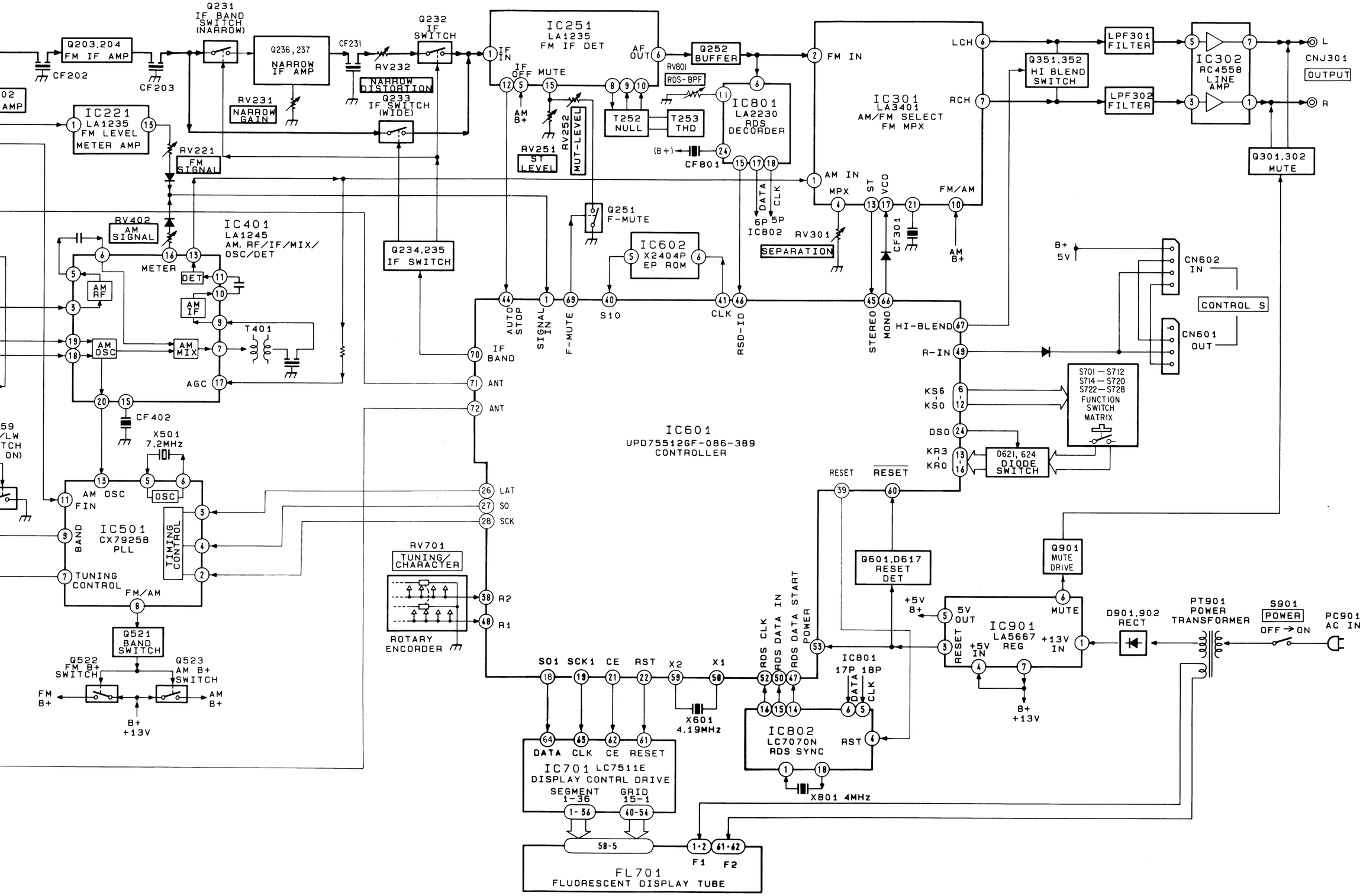


SECTION 3
DIAGRAMS

3-1. BLOCK DIAGRAM

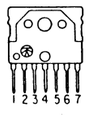


02


Q231 IF BAND SWITCH (NARROW)
Q203.204 FM IF AMP
CF202
CF203
Q236, 237 NARROW IF AMP
CF231
RV232
Q232 IF SWITCH
NARROW DISTORTION
RV231 NARROW GAIN
Q233 IF SWITCH (WIDE)
IC251 LA1235 FM IF DET
IF IN
AF OUT
Q252 BUFFER
IF OFF MUTE
AM B+
RV251 ST LEVEL
RV252 MUT-LEVEL
RV801
RDS-BPF
T252 NULL
T253 THD
IC801 LA2230 RDS DECORDER
(B+)
CF801
IC221 LA1235 FM LEVEL METER AMP
RV221 FM SIGNAL
IC301 LA3401 AM/FM SELECT FM MPX
FM IN
AM IN
LCH
RCH
Q351.352 HI BLEND SWITCH
LPF301 FILTER
LPF302 FILTER
IC302 RC4558 LINE AMP
L
R
CNJ301
OUTPUT
Q301.302 MUTE
MPX
ST
VCO
FM/AM
DATA
CLK
6P 5P
IC802
RV301
SEPARATION
CF301
AM B+
RV402 AM SIGNAL
IC401 LA1245 AM, RF/IF/MIX/ OSC/DET
METER
DET
AM RF
AM IF
AM OSC
AM MIX
T401
AGC
Q234.235 IF SWITCH
Q251 F-MUTE
IC602 X2404P EP ROM
AUTO STOP
SIGNAL IN
F-MUTE
S10
CLK
RSD-ID
STEREO
MONO
HI-BLEND
R-IN
B+ 5V
CN602 IN
CONTROL S
CN601 OUT
IF BAND
ANT
ANT
CF402
X501 7.2MHz
AM OSC
OSC
FIN
BAND
IC501 CX7925B PLL
TIMING CONTROL
TUNING CONTROL
FM/AM
Q521 BAND SWITCH
Q522 FM B+ SWITCH
Q523 AM B+ SWITCH
FM B+
AM B+
B+ +13V
S701 — S712
S714 — S720
S722 — S728
FUNCTION SWITCH MATRIX
KS6 - KS0
DS0
KR3 - KR0
D621, 624 DIODE SWITCH
IC601
UPD75512GF-086-389
CONTROLLER
LAT
SO
SCK
RV701 TUNING/ CHARACTER
ROTARY ENCORDER
R2
R1
RESET
RESET
Q601.D617 RESET DET
Q901 MUTE DRIVE
+5V B+
5V OUT
RESET
MUTE
IC901 LA5667 REG
+5V IN
+13V IN
B+ +13V
D901,902 RECT
PT901 POWER TRANSFORMER
S901 POWER OFF → ON
PC901 AC IN
RDS CLK
RDS DATA IN
RDS DATA START
POWER
IC801 17P 18P
DATA
CLK
SO1 SCK1 CE RST X2 X1
X601 4.19MHz
IC802 LC7070N RDS SYNC
RST
X801 4MHz
DATA CLK CE RESET
IC701 LC7511E DISPLAY CONTRL DRIVE
SEGMENT 1-36
GRID 15-1
1-36
40-54
58-5
1·2
61·62
F1
F2
FL701 FLUORESCENT DISPLAY TUBE

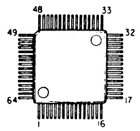
• SEMICONDUCTOR LEAD LAYOUTS

LA5667

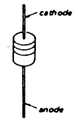


2SK246-GR3

LC75711E

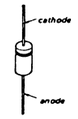


11ES2
HZS27-2L
HZS7B2L



2SA1175-HFE
2SC3623A-LK
DTC114TS
DTC144ES

1N4148M



2SC2603-EF
2SC2669-OY
DTA144ES

2SK161-YGR

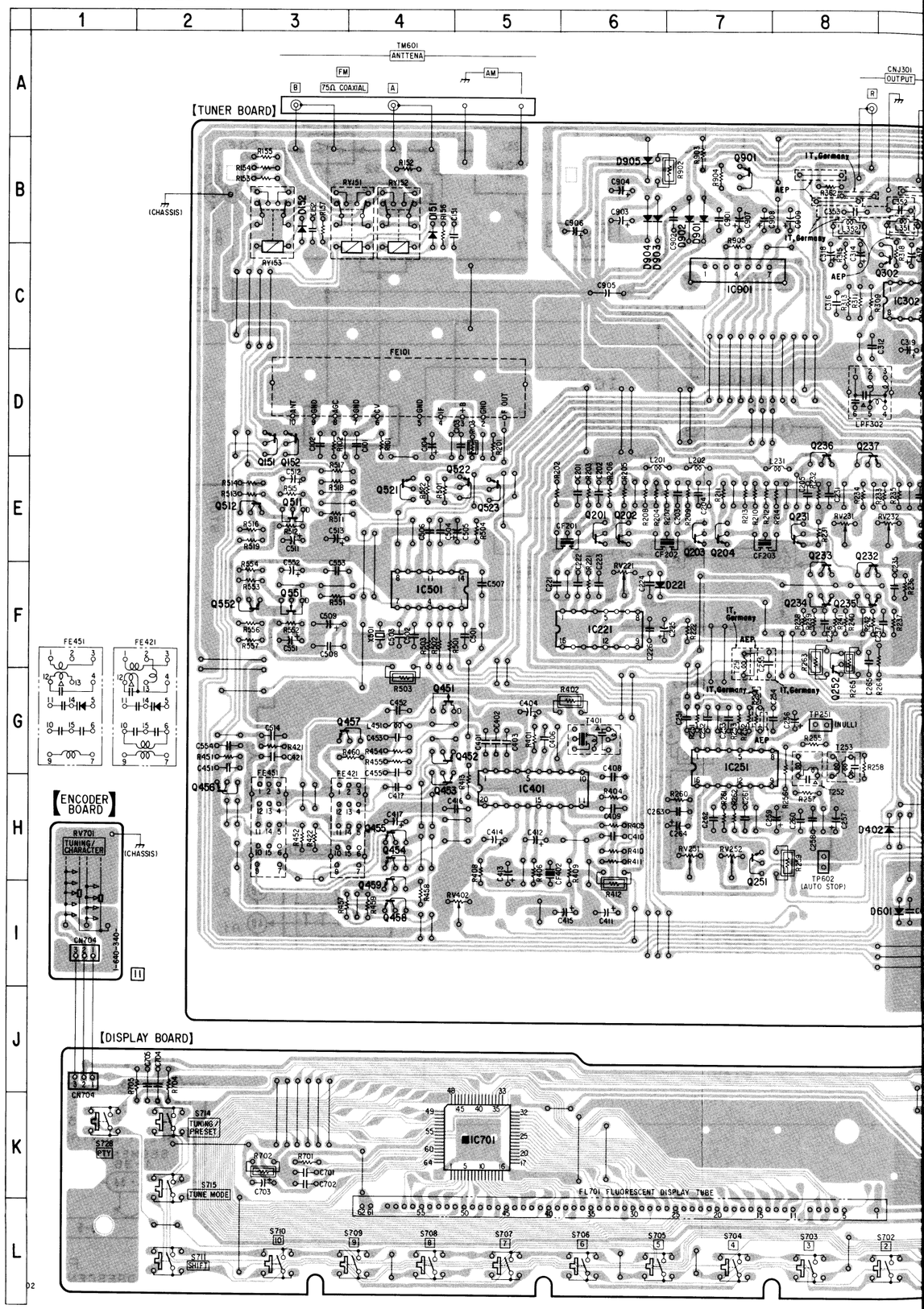
• SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D151	B – 4	Q301	C – 9
D152	B – 3	Q302	C – 9
D221	F – 6	Q351	D – 11
D301	B – 10	Q352	D – 10
D402	H – 9	Q451	G – 4
D601	I – 9	Q452	G – 4
D615	B – 12	Q453	H – 4
D616	G – 11	Q454	H – 4
D617	G – 10	Q455	H – 4
D618	E – 11	Q456	H – 2
D621	I – 11	Q457	G – 4
D623	I – 11	Q458	I – 4
D624	I – 11	Q459	H – 4
D901	B – 7	Q511	E – 3
D902	B – 7	Q512	E – 3
D903	B – 6	Q521	E – 4
D904	B – 6	Q522	E – 5
D905	B – 6	Q523	E – 5
D906	H – 13	Q551	F – 3
		Q552	F – 3
IC221	F – 6	Q601	G – 10
IC251	G – 7	Q901	B – 7
IC301	C – 10		
IC302	C – 9		
IC401	H – 5		
IC501	F – 4		
IC601	H – 11		
IC602	H – 12		
IC701	K – 5		
IC801	E – 10		
	F – 10		
IC802	C – 7		
IC901			
	D – 3		
Q151	D – 3		
Q152	E – 6		
Q201	E – 6		
Q202	E – 7		
Q203			
	E – 7		
Q204	E – 8		
Q231	E – 8		
Q232	E – 8		
Q233	F – 8		
Q234			
	F – 8		
Q235	D – 8		
Q236	D – 8		
Q237	H – 7		
Q251	F – 8		
Q252			

Note:

- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ⊡← : indicates side identified with part number.
- ▨ : Pattern on the side which is seen.

3-2. PRINTED WIRING BOARDS

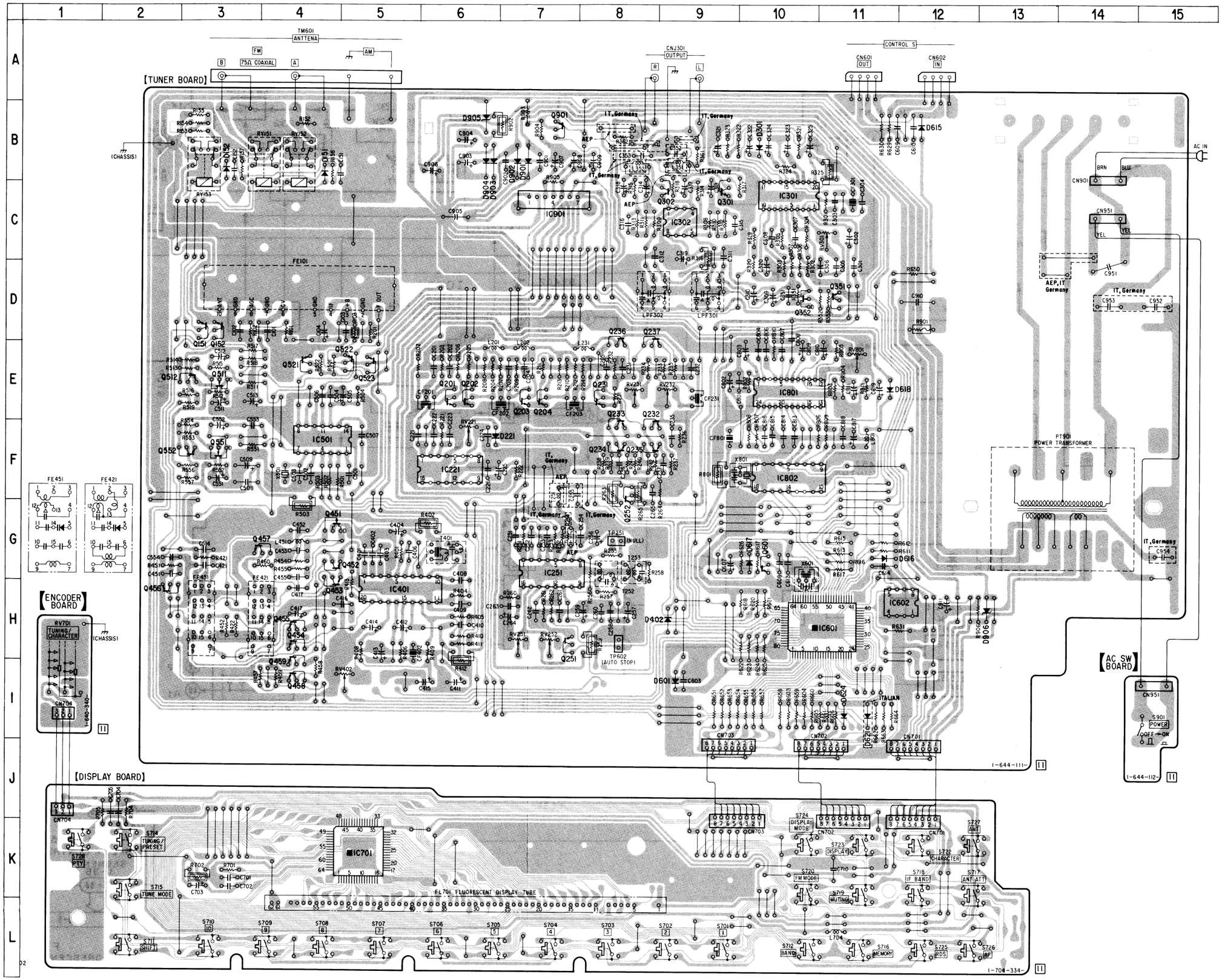


ONDUCTOR LOCATION

	Location	Ref. No.	Location
	B – 4	Q301	C – 9
	B – 3	Q302	C – 9
	F – 6	Q351	D – 11
	B – 10	Q352	D – 10
	H – 9	Q451	G – 4
	I – 9	Q452	G – 4
	B – 12	Q453	H – 4
	G – 11	Q454	H – 4
	G – 10	Q455	H – 4
	E – 11	Q456	H – 2
	I – 11	Q457	G – 4
	I – 11	Q458	I – 4
	I – 11	Q459	H – 4
	B – 7	Q511	E – 3
	B – 7	Q512	E – 3
	B – 6	Q521	E – 4
	B – 6	Q522	E – 5
	B – 6	Q523	E – 5
	H – 13	Q551	F – 3
		Q552	F – 3
	F – 6	Q601	G – 10
	G – 7	Q901	B – 7
	C – 10		
	C – 9		
	H – 5		
	F – 4		
	H – 11		
	H – 12		
	K – 5		
	E – 10		
	F – 10		
	C – 7		
	D – 3		
	D – 3		
	E – 6		
	E – 6		
	E – 7		
	E – 7		
	E – 8		
	E – 8		
	F – 8		
	F – 8		
	D – 8		
	D – 8		
	H – 7		
	F – 8		

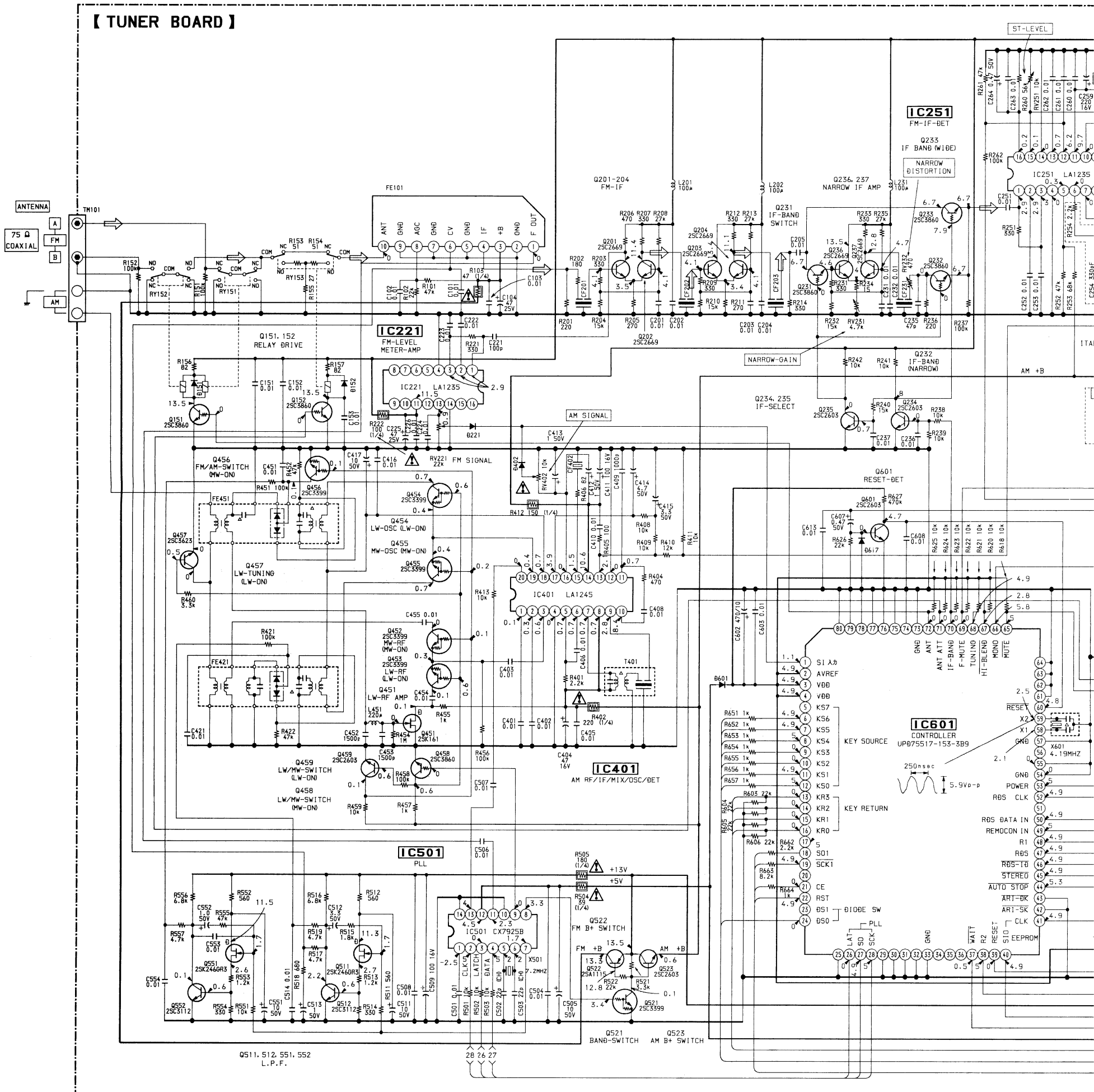
s extracted from the component side.
s mounted on the conductor side.
cates side identified with part number.
attern on the side which is seen.

3-2. PRINTED WIRING BOARDS

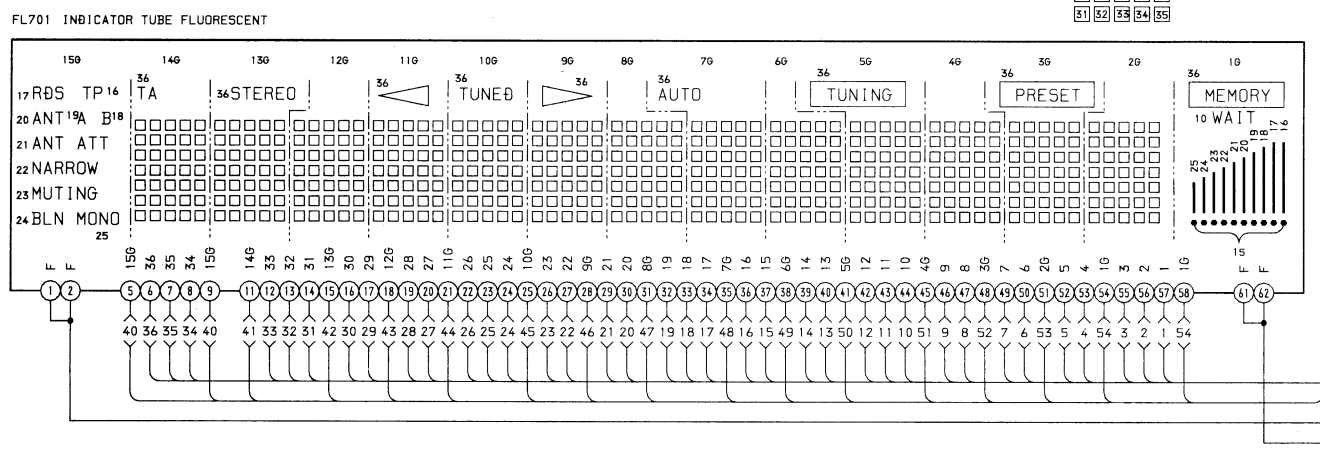


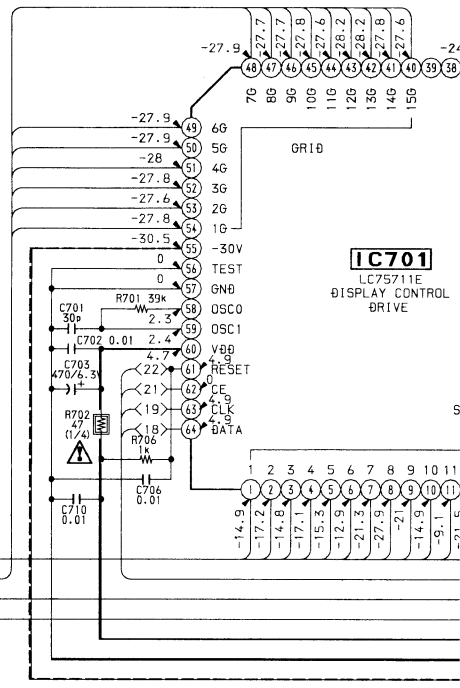
3-3. SCHEMATIC DIAGRAM

【 TUNER BOARD 】

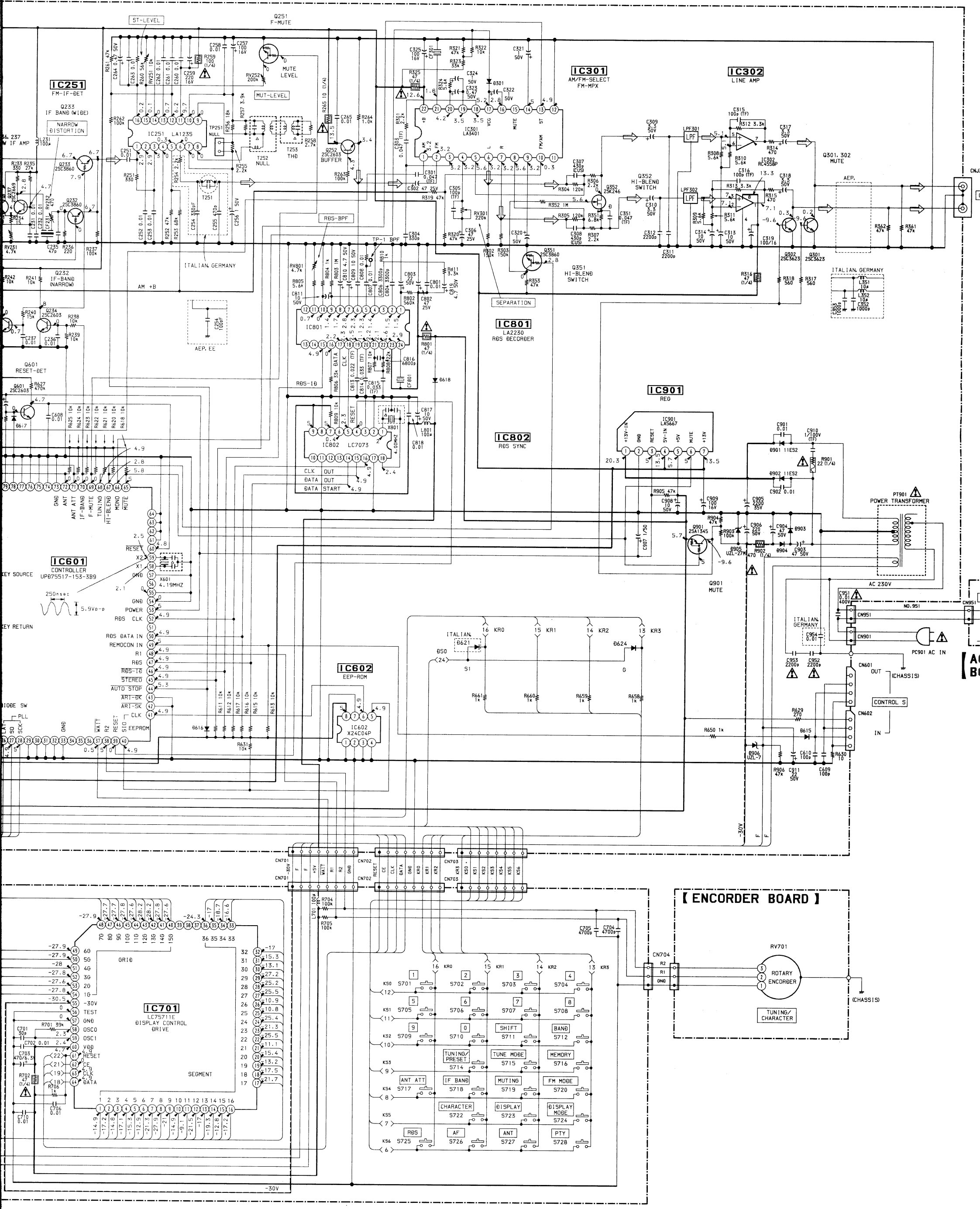


【 DISPLAY BOARD 】





02


IC251
FM-IF-DET
IC301
AM/FM-SELECT
FM-MPX
IC302
LINE AMP
IC801
RDS DECORDER
IC901
REG
IC802
RDS SYNC
IC601
CONTROLLER
UPD75517-153-3B9
IC602
EEP-ROM
IC701
LC75711E
DISPLAY CONTROL
DRIVE
Q251
F-MUTE
Q252
2SC2603
BUFFER
Q233
IF BAND (WIDE)
Q232
IF-BAND
(NARROW)
Q234
2SC2603
Q601
RESET-DET
Q2603
Q233
2SC3860
Q232
2SC3860
Q351
2SC3860
Q352
2SK246
Q901
2SA1345
Q301, 302
MUTE
Q351
HI-BLEND
SWITCH
Q352
HI-BLEND
SWITCH
Q901
MUTE
NARROW
DISTORTION
ST-LEVEL
MUTE
LEVEL
MUT-LEVEL
TP251
NULL
T252
NULL
T253
THD
T251
ITALIAN, GERMANY
AM +B
RDS-BPF
TP-1 BPF
SEPARATION
AEP, EE
AEP.
LPF301
LPF302
LPF
IC301
LA3401
IC801
LA2230
IC901
LA5667
IC802
LC7073
X801
4.00MHZ
X601
4.19MHZ
IC602
X24C04P
IC701
GRID
SEGMENT
RESET
X2
X1
GND
POWER
RDS CLK
RDS DATA IN
REMOCON IN
R1
RDS
RDS-ID
STEREO
AUTO STOP
ARI-DK
ARI-SK
CLK
EEPROM
DATA
CE
CLK
DATA
PLL
SO
SCK
WAIT
R2
RESET
SIO
GND
GND
ANT
ANT ATT
IF-BAND
F-MUTE
TUNING
HI-BLEND
MONO
MUTE
KEY SOURCE
KEY RETURN
250nsec
5.9Vp-p
CLK OUT
DATA OUT
DATA START
CN701
CN702
CN703
CN704
-30V
F
+5V
WAIT
R1
R2
GND
RESET
CE
CLK
DATA
KR0
KR1
KR2
KR3
KS0
KS1
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KS5
KS6
ITALIAN, GERMANY
D621
D624
D650
S1
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R661 1k
R660 1k
R659 1k
R658 1k
R650 1k
S701
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S710
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BAND
S711
S712
TUNING/
PRESET
S714
TUNE MODE
S715
MEMORY
S716
ANT ATT
S717
IF BAND
S718
MUTING
S719
FM MODE
S720
CHARACTER
S722
DISPLAY
S723
DISPLAY
MODE
S724
RDS
S725
AF
S726
ANT
S727
PTY
S728
【 ENCORDER BOARD 】
RV701
ROTARY
ENCORDER
TUNING/
CHARACTER
(CHASSIS)
PT901
POWER TRANSFORMER
AC 230V
PC901 AC IN
CONTROL S
CN951
CN901
CN601
CN602
OUT
IN
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D901 11ES2
D902 11ES2
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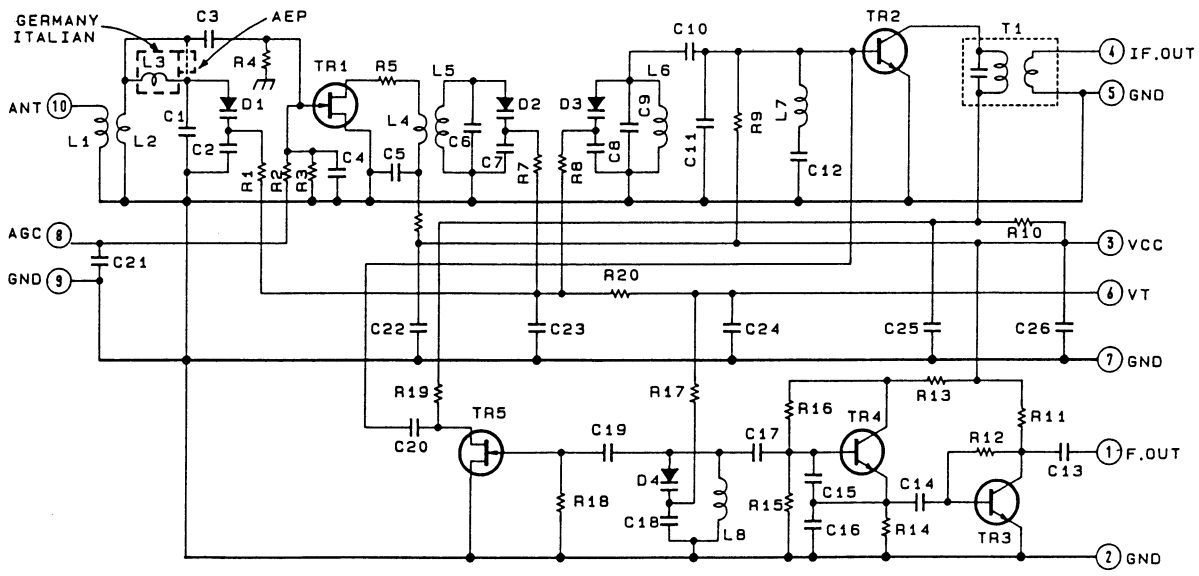
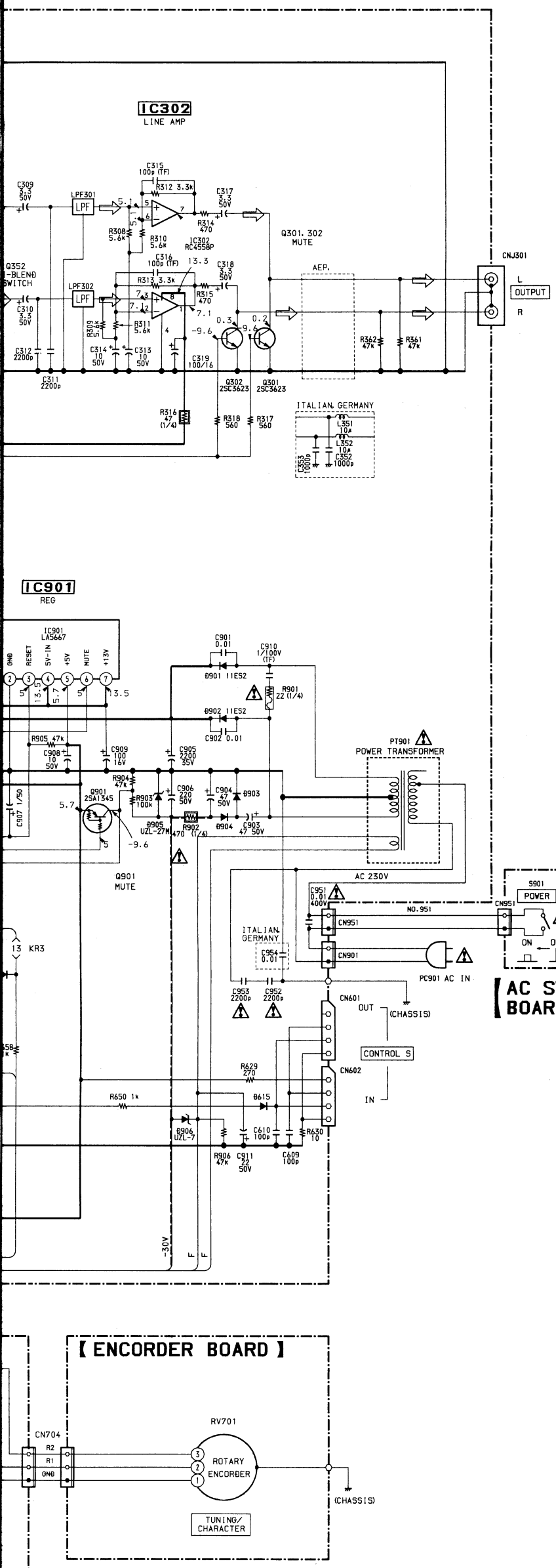
D1000

3-4. FM FRONT-END (EF01)
– AEP, IT, G Model –





Note :

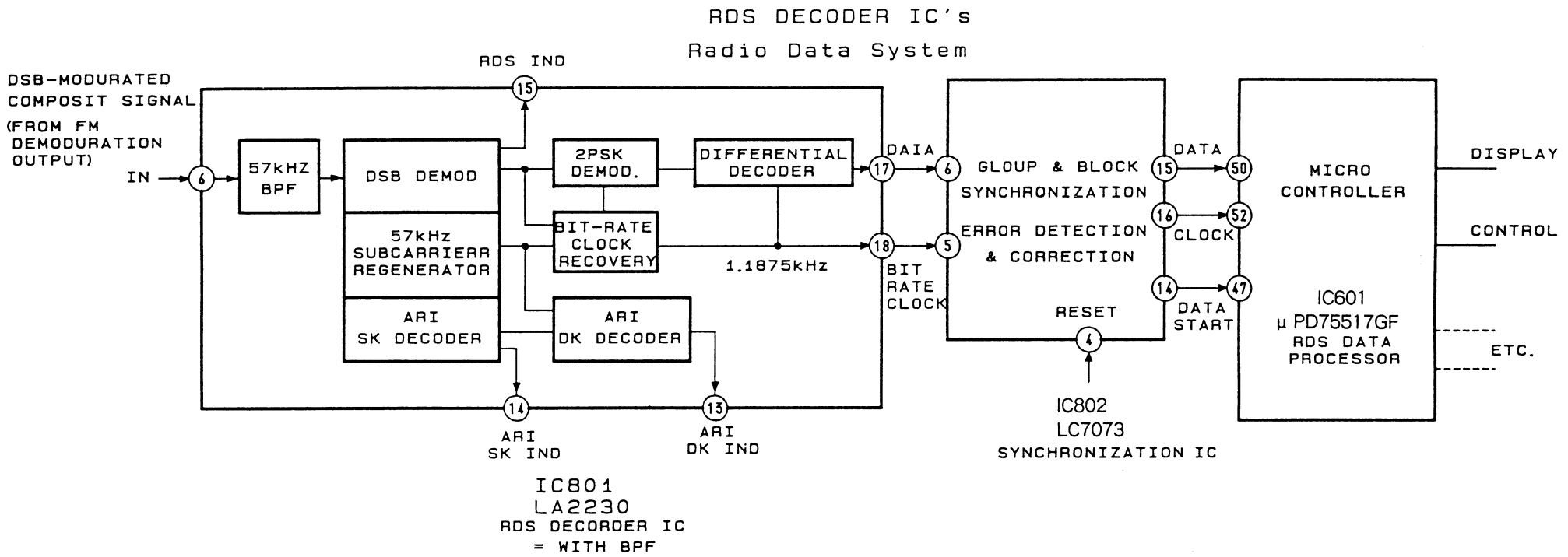
- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.
- : nonflammable resistor.
- : fusible resistor.

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

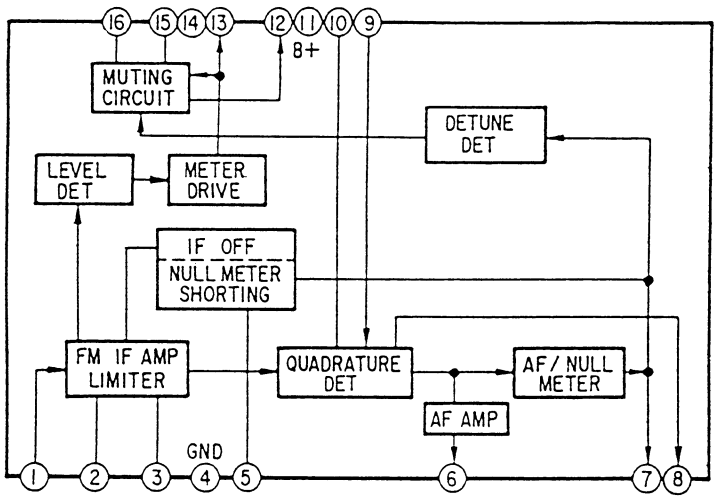
- : B+ Line
- : B − Line
- : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM

3-5. IC BLOCK DIAGRAMS

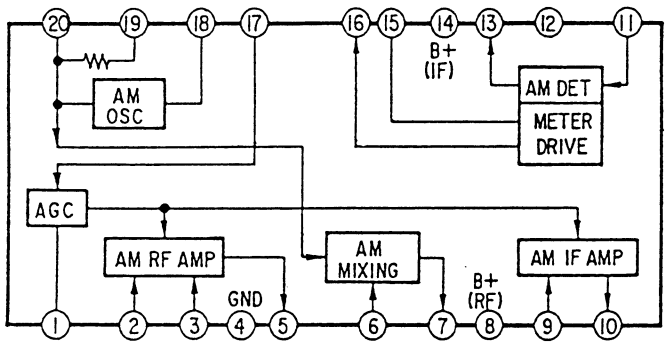
IC601 μPD75517GF
IC801 LA2230
IC802 LC7073



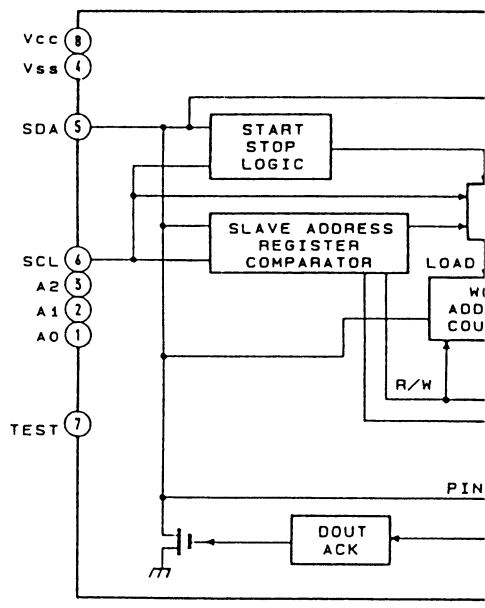
IC221, 251 LA1235



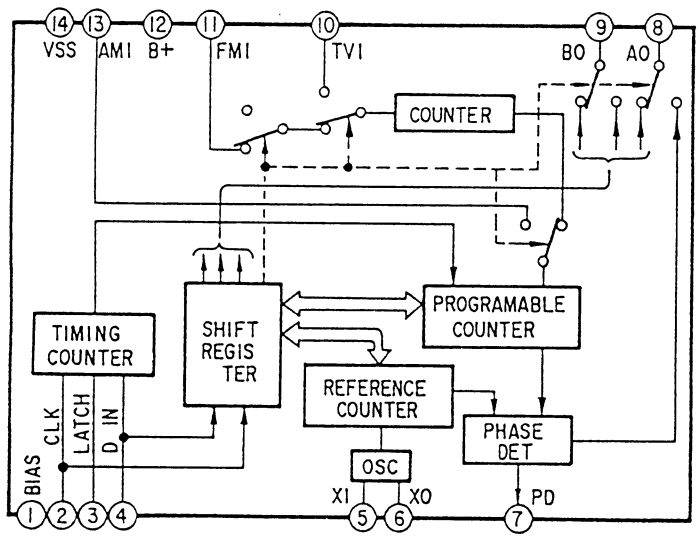
IC401 LA1245



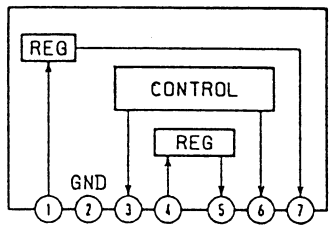
IC602 X24C04P



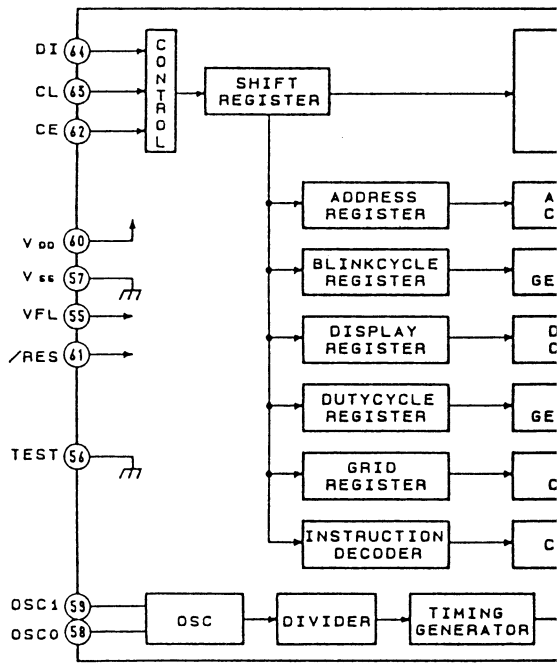
IC501 CX7925B



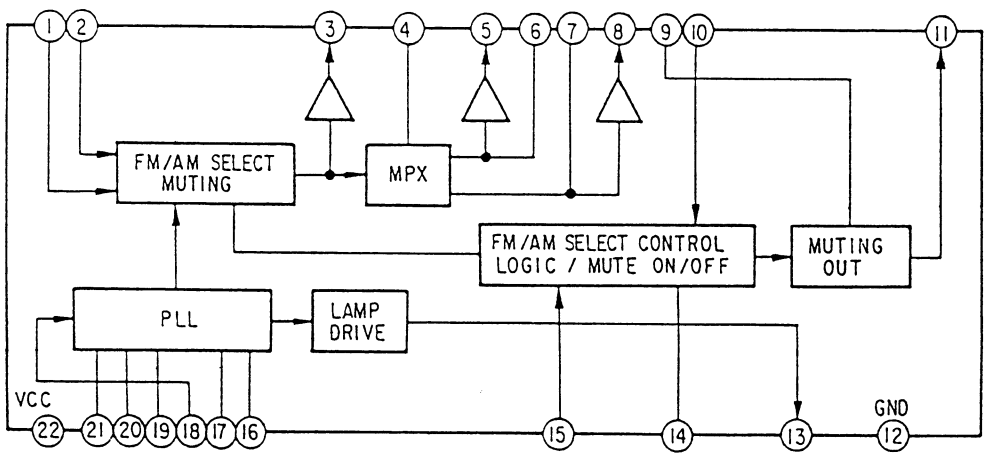
IC901 LA5667

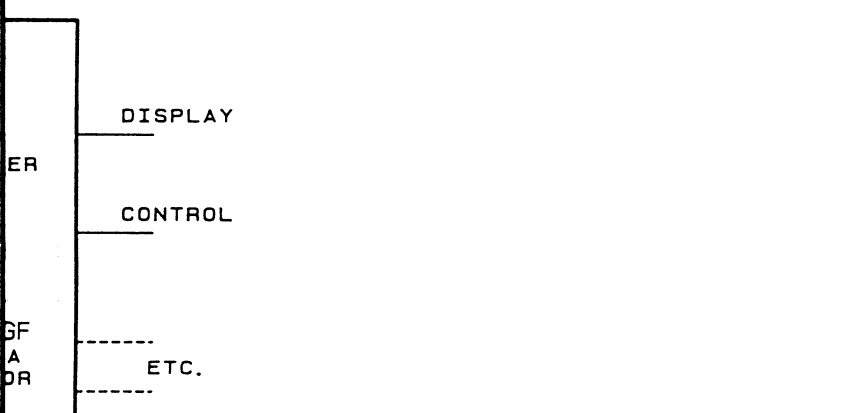


IC701 LC7511E

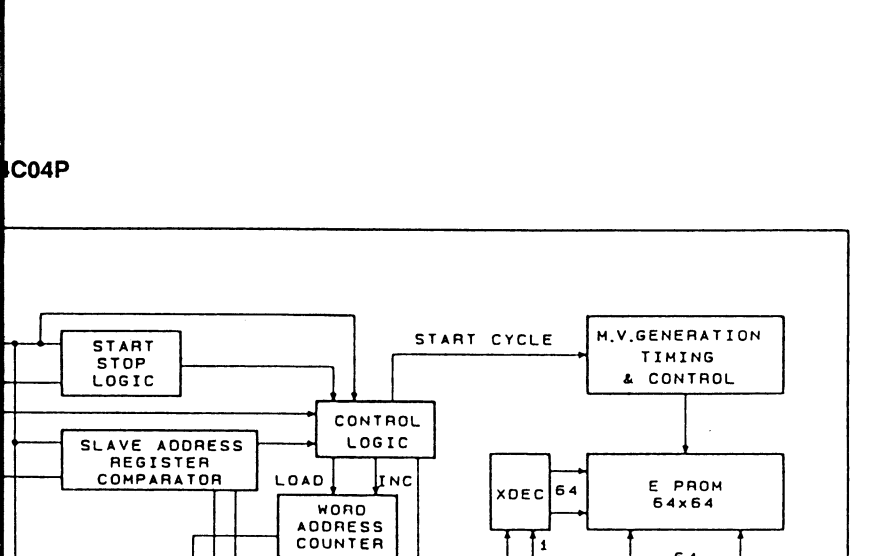


IC301 LA3401





1E

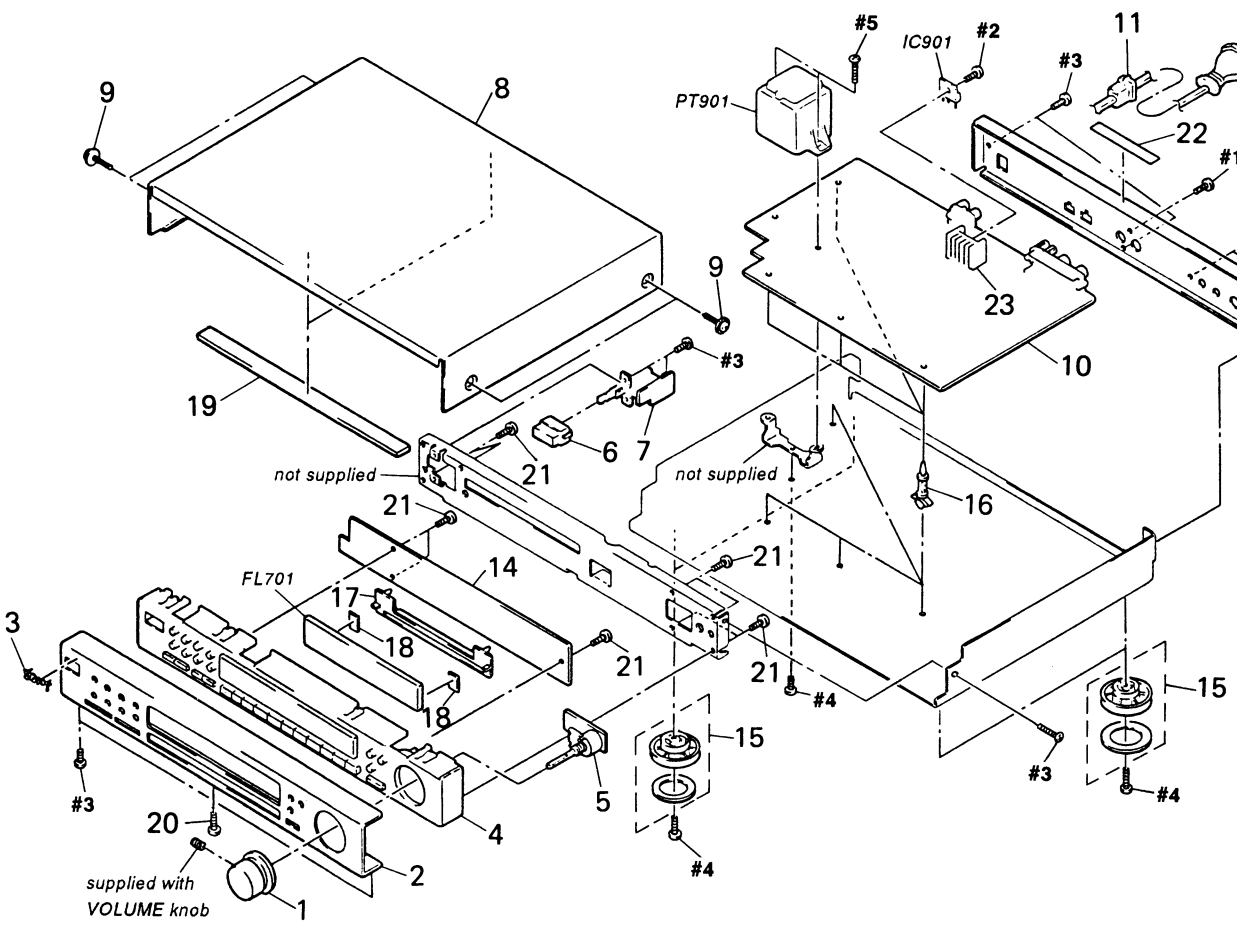


SECTION 4
EXPLODED VIEW

NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) .... (RED)
  ↑ Parts color ↑ Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

The components identif
mark ⚠ or dotted line wit
⚠ are critical for safety.
Replace only with part
specified.

When indicating parts b
ence number, please incl
board.



Ref.No.	Part No.	Description	Remark
1	4-945-871-01	KNOB (DIA. 50)	
2	4-952-984-01	PANEL, FRONT	
3	4-908-848-01	EMBLEM, SONY	
4	X-4942-750-1	PANEL (BASE) ASSY	
* 5	1-640-340-11	ENCODER BOARD	
6	3-354-912-01	KNOB, POWER	
* 7	1-644-112-11	AC SW (A) BOARD	
8	4-923-420-71	CASE	
9	3-704-366-01	SCREW (CASE) (M3X8)	
* 10	A-4347-585-A	TUNER BOARD, COMPLETE(AEP)	
* 10	A-4347-588-A	TUNER BOARD, COMPLETE(Germany)	
* 10	A-4347-589-A	TUNER BOARD, COMPLETE(ITALIAN)	
* 11	3-703-244-00	BUSHING (2104), CORD	
12	3-704-242-01	SCREW, TERMINAL, + BVTP CLAW	

Ref.No.	Part No.	Description
* 13	4-950-075-41	PANEL, BACK
* 14	A-4347-587-A	DISPLAY BOARD, COMPLETE
15	X-3304-944-1	FOOT ASSY
* 16	3-346-265-11	HOLDER, PC BOARD
* 17	4-945-292-01	HOLDER, INDICATION TUBE
* 18	4-932-810-11	CUSHION (FL)
* 19	4-916-782-41	DAMPER
20	3-703-685-21	SCREW (+BV 3X8)
21	4-928-635-01	SCREW, +BV (2.6X8) TAPPING
22	3-839-335-01	CUSHION
* 23	4-911-383-01	HEAT SINK
FL701	1-519-719-11	INDICATOR TUBE, FLUORESCENT
IC901	8-759-820-09	IC LA5667
⚠PC901	1-574-383-11	CORD, POWER
⚠PT901	1-450-408-11	TRANSFORMER, POWER

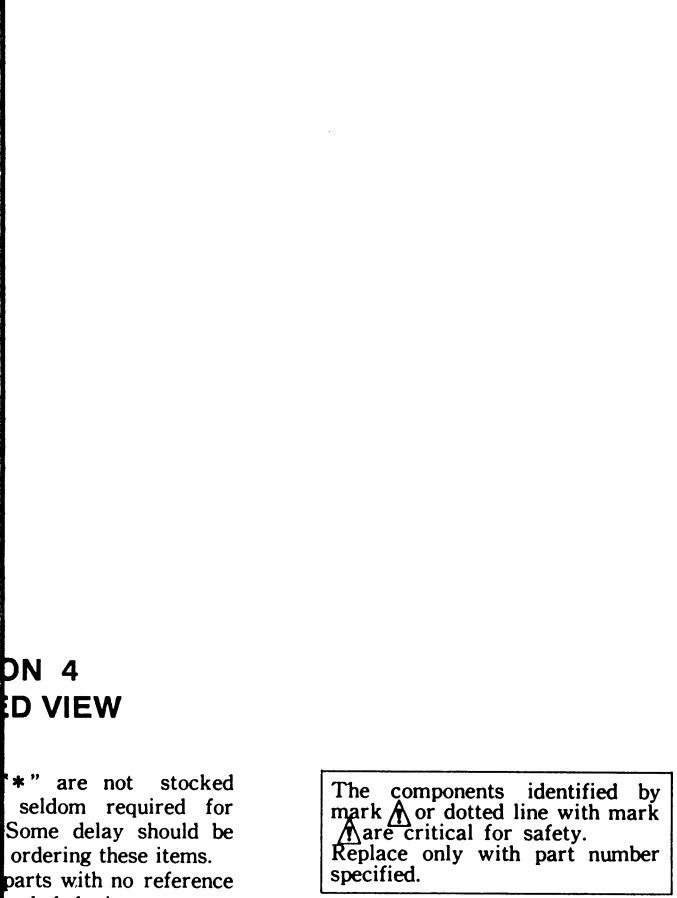
ON 4
ED VIEW

"*" are not stocked
seldom required for
Some delay should be
ordering these items.
parts with no reference
xploded views are not

rk) list is given in the
list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.



Ref.No.	Part No.	Description	Remark
* 13	4-950-075-41	PANEL, BACK	
* 14	A-4347-587-A	DISPLAY BOARD, COMPLETE	
15	X-3304-944-1	FOOT ASSY	
* 16	3-346-265-11	HOLDER, PC BOARD	
* 17	4-945-292-01	HOLDER, INDICATION TUBE	
* 18	4-932-810-11	CUSHION (FL)	
* 19	4-916-782-41	DAMPER	
20	3-703-685-21	SCREW (+BV 3X8)	
21	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
22	3-839-335-01	CUSHION	
* 23	4-911-383-01	HEAT SINK	
FL701	1-519-719-11	INDICATOR TUBE, FLUORESCENT	
IC901	8-759-820-09	IC LA5667	
⚠PC901	1-574-383-11	CORD, POWER	
⚠PT901	1-450-408-11	TRANSFORMER, POWER	

ENCODER DISPLAY

SECTION 5
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal oxide-film resistor
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA....: μA...., uPA....: μPA....
  uPB....: μPB...., uPC....: μPC....
  uPD....: μPD....
- CAPACITORS
  uF: μF
- COILS
  uH: μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref.No.	Part No.	Description			Remark
*	1-640-340-11	ENCODER BOARD			
		**********			
		< VARIABLE RESISTOR >			
RV701	1-466-336-11	ENCODER, ROTARY(TUNING/CHARACTER/PTY)			
		**********			
*	A-4347-587-A	DISPLAY BOARD, COMPLETE			
		**********			
*	4-932-810-11	CUSHION (FL)			
*	4-945-292-01	HOLDER, INDICATION TUBE			
		< CAPACITOR >			
C701	1-102-962-00	CERAMIC	30PF	5% 50V	
C702	1-164-095-11	CERAMIC	0.01uF	10% 16V	
C703	1-128-183-11	ELECT	470uF	20% 6.3V	
C704	1-161-377-00	CERAMIC	0.0047uF	30% 16V	
C705	1-161-377-00	CERAMIC	0.0047uF	30% 16V	
C706	1-161-379-00	CERAMIC	0.01uF	20% 25V	
C710	1-161-379-00	CERAMIC	0.01uF	20% 25V	
		< CONNECTOR >			
* CN701	1-564-342-11	PIN, CONNECTOR 8P			
* CN702	1-564-342-61	PIN, CONNECTOR 8P			
* CN703	1-564-342-11	PIN, CONNECTOR 8P			
		< FILTER >			
FL701	1-519-719-11	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC701	8-759-823-57	IC LC75711E			

Ref.No.	Part No.	Description			Remark
		< COIL >			
L701	1-410-977-11	INDUCTOR	100uH		
		< RESISTOR >			
R701	1-249-436-11	CARBON	39K	5% 1/4W	
⚠R702	1-249-401-11	CARBON	47	5% 1/4W	
R704	1-249-441-11	CARBON	100K	5% 1/4W	
R705	1-249-441-11	CARBON	100K	5% 1/4W	
R706	1-249-417-11	CARBON	1K	5% 1/4W	
		< SWITCH >			
S701	1-554-303-21	SWITCH, TACTILE(1)			
S702	1-554-303-21	SWITCH, TACTILE(2)			
S703	1-554-303-21	SWITCH, TACTILE(3)			
S704	1-554-303-21	SWITCH, TACTILE(4)			
S705	1-554-303-21	SWITCH, TACTILE(5)			
S706	1-554-303-21	SWITCH, TACTILE(6)			
S707	1-554-303-21	SWITCH, TACTILE(7)			
S708	1-554-303-21	SWITCH, TACTILE(8)			
S709	1-554-303-21	SWITCH, TACTILE(9)			
S710	1-554-303-21	SWITCH, TACTILE(0)			
S711	1-554-303-21	SWITCH, TACTILE(SHIFT)			
S712	1-554-303-21	SWITCH, TACTILE(BAND)			
S714	1-554-303-21	SWITCH, TACTILE(TUNING/PRESET)			
S715	1-554-303-21	SWITCH, TACTILE(TUNE MODE)			
S716	1-554-303-21	SWITCH, TACTILE(MEMORY)			
S717	1-554-303-21	SWITCH, TACTILE(ANT ATT)			
S718	1-554-303-21	SWITCH, TACTILE(IF BAND)			
S719	1-554-303-21	SWITCH, TACTILE(MUTING)			
S720	1-554-303-21	SWITCH, TACTILE(FM MODE)			
S722	1-554-303-21	SWITCH, TACTILE(CHARACTER)			
S723	1-554-303-21	SWITCH, TACTILE(DISPLAY)			
S724	1-554-303-21	SWITCH, TACTILE(DISPLAY MODE)			

DISPLAY | AC SW(A) | TUNER

Ref.No.	Part No.	Description			Remark
S725	1-554-303-21	SWITCH, TACTILE(RDS)			
S726	1-554-303-21	SWITCH, TACTILE(AF)			
S727	1-572-184-11	SWITCH, KEYBOARD(ANT)			
S728	1-572-184-11	SWITCH, KEYBOARD(PTY)			
**********					
*	1-644-112-11	AC SW (A) BOARD			
		**********			
		< SWITCH >			
S901	1-572-267-51	SWITCH, PUSH (AC POWER)(1 KEY)(POWER)			
**********					
*	A-4347-585-A	TUNER BOARD, COMPLETE(AEP)			
		**********			
*	A-4347-588-A	TUNER BOARD, COMPLETE(Germany)			
		**********			
*	A-4347-589-A	TUNER BOARD, COMPLETE(ITALIAN)			
		**********			
*	4-911-383-01	HEAT SINK			
	7-682-548-09	SCREW +B 3X8			
		< CAPACITOR >			
C101	1-161-379-00	CERAMIC	0.01uF	20%	25V
C102	1-161-379-00	CERAMIC	0.01uF	20%	25V
C103	1-161-379-00	CERAMIC	0.01uF	20%	25V
C104	1-126-022-11	ELECT	47uF	20%	25V
C151	1-161-379-00	CERAMIC	0.01uF	20%	25V
C152	1-161-379-00	CERAMIC	0.01uF	20%	25V
C153	1-161-379-00	CERAMIC	0.01uF	20%	25V
C201	1-161-379-00	CERAMIC	0.01uF	20%	25V
C202	1-161-379-00	CERAMIC	0.01uF	20%	25V
C203	1-161-379-00	CERAMIC	0.01uF	20%	25V
C204	1-161-379-00	CERAMIC	0.01uF	20%	25V
C205	1-161-379-00	CERAMIC	0.01uF	20%	25V
C221	1-162-282-31	CERAMIC	100PF	10%	50V
C222	1-161-379-00	CERAMIC	0.01uF	20%	25V
C223	1-161-379-00	CERAMIC	0.01uF	20%	25V
C224	1-161-379-00	CERAMIC	0.01uF	20%	25V
C225	1-126-022-11	ELECT	47uF	20%	25V
C226	1-161-379-00	CERAMIC	0.01uF	20%	25V
C231	1-161-379-00	CERAMIC	0.01uF	20%	25V
C232	1-161-379-00	CERAMIC	0.01uF	20%	25V
C235	1-162-215-31	CERAMIC	47PF	5%	50V
C236	1-161-379-00	CERAMIC	0.01uF	20%	25V
C237	1-161-379-00	CERAMIC	0.01uF	20%	25V
C251	1-161-379-00	CERAMIC	0.01uF	20%	25V

Ref.No.	Part No.	Description			Remark
C252	1-161-379-00	CERAMIC	0.01uF	20%	25V
C253	1-161-379-00	CERAMIC	0.01uF	20%	25V
C254	1-162-282-31	CERAMIC	100PF	10%	50V (AEP, EE)
C254	1-162-288-31	CERAMIC	330PF	10%	50V (Germany, ITALIAN)
C255	1-162-290-31	CERAMIC	470PF	10%	50V (Germany, ITALIAN)
C256	1-126-044-11	ELECT	1uF	20%	50V
C257	1-126-023-11	ELECT	100uF	20%	16V
C258	1-161-379-00	CERAMIC	0.01uF	20%	25V
C259	1-126-024-11	ELECT	220uF	20%	16V
C260	1-161-379-00	CERAMIC	0.01uF	20%	25V
C261	1-161-379-00	CERAMIC	0.01uF	20%	25V
C262	1-161-379-00	CERAMIC	0.01uF	20%	25V
C263	1-161-379-00	CERAMIC	0.01uF	20%	25V
C264	1-126-043-11	ELECT	0.47uF	20%	50V
C265	1-161-379-00	CERAMIC	0.01uF	20%	25V
C301	1-136-161-00	FILM	0.047uF	5%	50V
C302	1-126-022-11	ELECT	47uF	20%	25V
C303	1-136-161-00	FILM	0.047uF	5%	50V
C304	1-162-288-31	CERAMIC	330PF	10%	50V
C305	1-110-335-11	MYLAR	100PF	5%	50V
C306	1-126-022-11	ELECT	47uF	20%	25V
C307	1-104-293-11	POLYSTYRENE	430PF	5%	50V
C308	1-104-293-11	POLYSTYRENE	430PF	5%	50V
C309	1-123-382-00	ELECT	3.3uF	20%	100V
C310	1-123-382-00	ELECT	3.3uF	20%	100V
C311	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C312	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C313	1-126-059-11	ELECT	10uF	20%	50V
C314	1-126-059-11	ELECT	10uF	20%	50V
C315	1-110-335-11	MYLAR	100PF	5%	50V
C316	1-110-335-11	MYLAR	100PF	5%	50V
C317	1-123-382-00	ELECT	3.3uF	20%	100V
C318	1-123-382-00	ELECT	3.3uF	20%	100V
C319	1-126-023-11	ELECT	100uF	20%	16V
C320	1-126-044-11	ELECT	1uF	20%	50V
C321	1-126-044-11	ELECT	1uF	20%	50V
C322	1-126-044-11	ELECT	1uF	20%	50V
C323	1-126-043-11	ELECT	0.47uF	20%	50V
C324	1-126-044-11	ELECT	1uF	20%	50V
C325	1-126-023-11	ELECT	100uF	20%	16V
C351	1-136-161-00	FILM	0.047uF	5%	50V
C352	1-162-294-31	CERAMIC	0.001uF	10%	50V (Germany, ITALIAN)
C353	1-162-294-31	CERAMIC	0.001uF	10%	50V (Germany, ITALIAN)
C401	1-161-379-00	CERAMIC	0.01uF	20%	25V

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Ref.No.	Part No.	Description			Remark
C402	1-161-379-00	CERAMIC	0.01uF	20%	25V
C403	1-161-379-00	CERAMIC	0.01uF	20%	25V
C404	1-126-022-11	ELECT	47uF	20%	25V
C405	1-161-379-00	CERAMIC	0.01uF	20%	25V
C406	1-161-379-00	CERAMIC	0.01uF	20%	25V
C408	1-161-379-00	CERAMIC	0.01uF	20%	25V
C409	1-162-294-31	CERAMIC	0.001uF	10%	50V
C410	1-161-379-00	CERAMIC	0.01uF	20%	25V
C411	1-126-023-11	ELECT	100uF	20%	16V
C412	1-126-044-11	ELECT	1uF	20%	50V
C413	1-126-044-11	ELECT	1uF	20%	50V
C414	1-126-163-11	ELECT	4.7uF	20%	50V
C415	1-123-382-00	ELECT	3.3uF	20%	100V
C416	1-161-379-00	CERAMIC	0.01uF	20%	25V
C417	1-126-059-11	ELECT	10uF	20%	50V
C421	1-161-379-00	CERAMIC	0.01uF	20%	25V
C451	1-161-379-00	CERAMIC	0.01uF	20%	25V
C452	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C453	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C454	1-161-379-00	CERAMIC	0.01uF	20%	25V
C455	1-161-379-00	CERAMIC	0.01uF	20%	25V
C501	1-161-379-00	CERAMIC	0.01uF	20%	25V
C502	1-102-959-00	CERAMIC	22PF	5%	50V
C503	1-102-959-00	CERAMIC	22PF	5%	50V
C504	1-161-379-00	CERAMIC	0.01uF	20%	25V
C505	1-126-059-11	ELECT	10uF	20%	50V
C506	1-161-379-00	CERAMIC	0.01uF	20%	25V
C507	1-161-379-00	CERAMIC	0.01uF	20%	25V
C508	1-161-379-00	CERAMIC	0.01uF	20%	25V
C509	1-126-023-11	ELECT	100uF	20%	16V
C511	1-126-059-11	ELECT	10uF	20%	50V
C512	1-123-382-00	ELECT	3.3uF	20%	100V
C513	1-126-044-11	ELECT	1uF	20%	50V
C514	1-161-379-00	CERAMIC	0.01uF	20%	25V
C551	1-126-059-11	ELECT	10uF	20%	50V
C552	1-126-044-11	ELECT	1uF	20%	50V
C553	1-161-379-00	CERAMIC	0.01uF	20%	25V
C554	1-161-379-00	CERAMIC	0.01uF	20%	25V
C602	1-124-997-11	ELECT	470uF	20%	10V
C603	1-161-379-00	CERAMIC	0.01uF	20%	25V
C607	1-126-043-11	ELECT	0.47uF	20%	50V
C608	1-161-379-00	CERAMIC	0.01uF	20%	25V
C609	1-162-282-31	CERAMIC	100PF	10%	50V
C610	1-162-282-31	CERAMIC	100PF	10%	50V
C613	1-161-379-00	CERAMIC	0.01uF	20%	25V
C614	1-161-379-00	CERAMIC	0.01uF	20%	25V
C801	1-161-379-00	CERAMIC	0.01uF	20%	25V
C802	1-126-022-11	ELECT	47uF	20%	25V
C803	1-126-049-11	ELECT	22uF	20%	50V

Ref.No.	Part No.	Description			Remark
C804	1-161-327-00	CERAMIC	0.0033uF	30%	16V
C806	1-161-327-00	CERAMIC	0.0033uF	30%	16V
C807	1-161-379-00	CERAMIC	0.01uF	20%	25V
C808	1-161-379-00	CERAMIC	0.01uF	20%	25V
C809	1-126-059-11	ELECT	10uF	20%	50V
C810	1-126-163-11	ELECT	4.7uF	20%	50V
C811	1-126-059-11	ELECT	10uF	20%	50V
C813	1-136-157-00	FILM	0.022uF	5%	50V
C814	1-136-159-00	FILM	0.033uF	5%	50V
C815	1-136-159-00	FILM	0.033uF	5%	50V
C816	1-161-329-00	CERAMIC	0.0068uF	30%	16V
C817	1-126-059-11	ELECT	10uF	20%	50V
C818	1-161-379-00	CERAMIC	0.01uF	20%	25V
C819	1-126-163-11	ELECT	4.7uF	20%	50V
C901	1-101-004-00	CERAMIC	0.01uF		50V
C902	1-101-004-00	CERAMIC	0.01uF		50V
C903	1-126-051-11	ELECT	47uF	20%	50V
C904	1-126-051-11	ELECT	47uF	20%	50V
C905	1-124-602-00	ELECT	2200uF	20%	35V
C906	1-126-053-11	ELECT	220uF	20%	50V
C907	1-126-044-11	ELECT	1uF	20%	50V
C908	1-126-059-11	ELECT	10uF	20%	50V
C909	1-126-023-11	ELECT	100uF	20%	16V
C910	1-130-789-00	FILM	1uF	5%	100V
C911	1-126-049-11	ELECT	22uF	20%	50V
⚠C951	1-161-744-00	CERAMIC	0.01uF		400V
⚠C952	1-161-742-00	CERAMIC	0.0022uF	20%	400V
⚠C953	1-161-742-00	CERAMIC	0.0022uF	20%	400V
C954	1-101-004-00	CERAMIC	0.01uF		50V (Germany, ITALIAN)

< FILTER >

CF201	1-567-389-11	FILTER, CERAMIC
CF202	1-567-389-11	FILTER, CERAMIC
CF203	1-567-389-11	FILTER, CERAMIC
CF231	1-567-107-71	FILTER, CERAMIC
CF301	1-567-250-11	OSCILLATOR, CERAMIC
CF402	1-527-981-00	FILTER, CERAMIC
CF801	1-577-075-11	OSCILLATOR, CERAMIC

< CONNECTOR >

CN601	1-564-980-11	PIN, CONNECTOR 4P (CONTROL-S IN)
CN602	1-564-980-11	PIN, CONNECTOR 4P (CONTROL-S OUT)
* CN701	1-564-342-11	PIN, CONNECTOR 8P
* CN702	1-564-342-61	PIN, CONNECTOR 8P
* CN703	1-564-342-11	PIN, CONNECTOR 8P
* CN901	1-564-321-00	PIN, CONNECTOR 2P
CN951	1-564-321-00	PIN, CONNECTOR 2P

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

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Ref.No.	Part No.	Description	Remark
		< JACK >	
CNJ301	1-568-250-21	JACK, PIN 2P (OUT PUT)	
		< DIODE >	
D151	8-719-987-63	DIODE 1N4148M	
D152	8-719-987-63	DIODE 1N4148M	
D221	8-719-987-63	DIODE 1N4148M	
D301	8-719-987-63	DIODE 1N4148M	
D402	8-719-987-63	DIODE 1N4148M	
D601	8-719-987-63	DIODE 1N4148M	
D615	8-719-987-63	DIODE 1N4148M	
D616	8-719-987-63	DIODE 1N4148M	
D617	8-719-987-63	DIODE 1N4148M	
D618	8-719-987-63	DIODE 1N4148M	
D621	8-719-987-63	DIODE 1N4148M (ITALIAN)	
D624	8-719-987-63	DIODE 1N4148M	
D901	8-719-200-82	DIODE 11ES2	
D902	8-719-200-82	DIODE 11ES2	
D903	8-719-987-63	DIODE 1N4148M	
D904	8-719-987-63	DIODE 1N4148M	
D905	8-719-934-18	LED HZS27-2L	
D906	8-719-933-47	DIODE HZS7B2L	
		< FRONT END >	
FE101	1-463-857-11	FRONT END (FM) (Germany, ITALIAN)	
FE101	1-465-219-11	FRONT END (AEP)	
FE421	1-236-462-11	ENCAPSULATED COMPONENT (MW)	
FE451	1-236-463-11	ENCAPSULATED COMPONENT (LW)	
		< IC >	
IC221	8-759-812-35	IC LA1235	
IC251	8-759-812-35	IC LA1235	
IC301	8-759-801-80	IC LA3401	
IC302	8-759-945-58	IC RC4558P	
IC401	8-759-812-45	IC LA1245	
IC501	8-757-925-20	IC CX7925B	
IC601	8-759-087-64	IC uPD75517GF-153-3B9	
IC602	8-759-720-89	IC X24C04P	
IC801	8-759-823-61	IC LA2230	
IC802	8-759-062-26	IC LC7073	
IC901	8-759-820-09	IC LA5667	
		< COIL >	
L201	1-410-977-11	INDUCTOR 100uH	
L202	1-410-977-11	INDUCTOR 100uH	
L231	1-410-977-11	INDUCTOR 100uH	

Ref.No.	Part No.	Description	Remark
L351	1-410-971-11	INDUCTOR 10uH (Germany, ITALIAN)	
L352	1-410-971-11	INDUCTOR 10uH (Germany, ITALIAN)	
L451	1-410-979-11	INDUCTOR 220uH	
L801	1-410-977-11	INDUCTOR 100uH	
		< FILTER >	
LPF301	1-235-164-00	FILTER, LOW PASS	
LPF302	1-235-164-00	FILTER, LOW PASS	
		< TRANSFORMER >	
⚠PT901	1-450-408-11	TRANSFORMER, POWER	
		< TRANSISTOR >	
Q151	8-729-904-39	TRANSISTOR DTC114TS	
Q152	8-729-904-39	TRANSISTOR DTC114TS	
Q201	8-729-230-XX	TRANSISTOR 2SC2669-OY	
Q202	8-729-230-XX	TRANSISTOR 2SC2669-OY	
Q203	8-729-230-XX	TRANSISTOR 2SC2669-OY	
Q204	8-729-230-XX	TRANSISTOR 2SC2669-OY	
Q231	8-729-904-39	TRANSISTOR DTC114TS	
Q232	8-729-904-39	TRANSISTOR DTC114TS	
Q233	8-729-904-39	TRANSISTOR DTC114TS	
Q234	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q235	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q236	8-729-230-XX	TRANSISTOR 2SC2669-OY	
Q237	8-729-230-XX	TRANSISTOR 2SC2669-OY	
Q251	8-729-900-89	TRANSISTOR DTC144ES	
Q252	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q301	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q302	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q351	8-729-904-39	TRANSISTOR DTC114TS	
Q352	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q451	8-729-231-20	TRANSISTOR 2SK161-YGR	
Q452	8-729-900-89	TRANSISTOR DTC144ES	
Q453	8-729-900-89	TRANSISTOR DTC144ES	
Q454	8-729-900-89	TRANSISTOR DTC144ES	
Q455	8-729-900-89	TRANSISTOR DTC144ES	
Q456	8-729-900-89	TRANSISTOR DTC144ES	
Q457	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q458	8-729-904-39	TRANSISTOR DTC114TS	
Q459	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q511	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q512	8-729-201-84	TRANSISTOR 2SC3112-B	
Q521	8-729-900-89	TRANSISTOR DTC144ES	
Q522	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q523	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q551	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q552	8-729-201-84	TRANSISTOR 2SC3112-B	

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Ref.No.	Part No.	Description				Remark
Q601	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q901	8-729-900-65	TRANSISTOR	DTA144ES			
		< RESISTOR >				
R101	1-259-468-11	CARBON	47K	5%	1/6W	
R102	1-259-460-11	CARBON	22K	5%	1/6W	
⚠R103	1-249-401-11	CARBON	47	5%	1/4W	
R151	1-259-476-11	CARBON	100K	5%	1/6W	
R152	1-259-476-11	CARBON	100K	5%	1/6W	
R153	1-259-397-11	CARBON	51	5%	1/6W	
R154	1-259-397-11	CARBON	51	5%	1/6W	
R155	1-259-390-11	CARBON	27	5%	1/6W	
R156	1-259-402-11	CARBON	82	5%	1/6W	
R157	1-259-402-11	CARBON	82	5%	1/6W	
R201	1-259-412-11	CARBON	220	5%	1/6W	
R202	1-259-410-11	CARBON	180	5%	1/6W	
R203	1-259-416-11	CARBON	330	5%	1/6W	
R204	1-259-456-11	CARBON	15K	5%	1/6W	
R205	1-259-414-11	CARBON	270	5%	1/6W	
R206	1-259-420-11	CARBON	470	5%	1/6W	
R207	1-259-416-11	CARBON	330	5%	1/6W	
R208	1-259-462-11	CARBON	27K	5%	1/6W	
R209	1-259-416-11	CARBON	330	5%	1/6W	
R210	1-259-456-11	CARBON	15K	5%	1/6W	
R211	1-259-414-11	CARBON	270	5%	1/6W	
R212	1-259-416-11	CARBON	330	5%	1/6W	
R213	1-259-462-11	CARBON	27K	5%	1/6W	
R214	1-259-416-11	CARBON	330	5%	1/6W	
R221	1-259-416-11	CARBON	330	5%	1/6W	
⚠R222	1-249-405-11	CARBON	100	5%	1/4W	
R231	1-259-416-11	CARBON	330	5%	1/6W	
R232	1-259-456-11	CARBON	15K	5%	1/6W	
R233	1-259-416-11	CARBON	330	5%	1/6W	
R234	1-259-384-11	CARBON	15	5%	1/6W	
R235	1-259-462-11	CARBON	27K	5%	1/6W	
R236	1-259-412-11	CARBON	220	5%	1/6W	
R237	1-259-476-11	CARBON	100K	5%	1/6W	
R238	1-259-452-11	CARBON	10K	5%	1/6W	
R239	1-259-452-11	CARBON	10K	5%	1/6W	
R240	1-259-456-11	CARBON	15K	5%	1/6W	
R241	1-259-452-11	CARBON	10K	5%	1/6W	
R242	1-259-452-11	CARBON	10K	5%	1/6W	
R251	1-259-416-11	CARBON	330	5%	1/6W	
R252	1-259-468-11	CARBON	47K	5%	1/6W	
R253	1-259-472-11	CARBON	68K	5%	1/6W	
R254	1-259-436-11	CARBON	2.2K	5%	1/6W	
R255	1-259-436-11	CARBON	2.2K	5%	1/6W	
R256	1-259-458-11	CARBON	18K	5%	1/6W	
R257	1-259-442-11	CARBON	3.9K	5%	1/6W	

Ref.No.	Part No.	Description				Remark
R258	1-259-438-11	CARBON	2.7K	5%	1/6W	
⚠R259	1-249-405-11	CARBON	100	5%	1/4W	
R260	1-259-470-11	CARBON	56K	5%	1/6W	
R261	1-259-468-11	CARBON	47K	5%	1/6W	
R262	1-259-476-11	CARBON	100K	5%	1/6W	
R263	1-259-452-11	CARBON	10K	5%	1/6W	
R264	1-259-436-11	CARBON	2.2K	5%	1/6W	
⚠R265	1-249-393-11	CARBON	10	5%	1/4W	
R301	1-259-436-11	CARBON	2.2K	5%	1/6W	
R302	1-259-480-11	CARBON	150K	5%	1/6W	
R303	1-259-480-11	CARBON	150K	5%	1/6W	
R304	1-259-478-11	CARBON	120K	5%	1/6W	
R305	1-259-478-11	CARBON	120K	5%	1/6W	
R306	1-259-436-11	CARBON	2.2K	5%	1/6W	
R307	1-259-436-11	CARBON	2.2K	5%	1/6W	
R308	1-259-446-11	CARBON	5.6K	5%	1/6W	
R309	1-259-446-11	CARBON	5.6K	5%	1/6W	
R310	1-259-446-11	CARBON	5.6K	5%	1/6W	
R311	1-259-446-11	CARBON	5.6K	5%	1/6W	
R312	1-259-440-11	CARBON	3.3K	5%	1/6W	
R313	1-259-440-11	CARBON	3.3K	5%	1/6W	
R314	1-259-420-11	CARBON	470	5%	1/6W	
R315	1-259-420-11	CARBON	470	5%	1/6W	
R316	1-249-401-11	CARBON	47	5%	1/4W	
R317	1-259-422-11	CARBON	560	5%	1/6W	
R318	1-259-422-11	CARBON	560	5%	1/6W	
R319	1-259-468-11	CARBON	47K	5%	1/6W	
R320	1-259-468-11	CARBON	47K	5%	1/6W	
R321	1-259-468-11	CARBON	47K	5%	1/6W	
R322	1-259-452-11	CARBON	10K	5%	1/6W	
R323	1-259-464-11	CARBON	33K	5%	1/6W	
R324	1-259-446-11	CARBON	5.6K	5%	1/6W	
⚠R325	1-249-401-11	CARBON	47	5%	1/4W	
R351	1-259-448-11	CARBON	6.8K	5%	1/6W	
R352	1-259-500-11	CARBON	1M	5%	1/6W	
R353	1-259-468-11	CARBON	47K	5%	1/6W	
R361	1-259-468-11	CARBON	47K	5%	1/6W	
R362	1-259-468-11	CARBON	47K	5%	1/6W	
R401	1-259-436-11	CARBON	2.2K	5%	1/6W	
⚠R402	1-249-409-11	CARBON	220	5%	1/4W	
R404	1-259-420-11	CARBON	470	5%	1/6W	
R405	1-259-404-11	CARBON	100	5%	1/6W	
R406	1-259-402-11	CARBON	82	5%	1/6W	
R408	1-259-452-11	CARBON	10K	5%	1/6W	
R409	1-259-452-11	CARBON	10K	5%	1/6W	
R410	1-259-454-11	CARBON	12K	5%	1/6W	
R411	1-259-452-11	CARBON	10K	5%	1/6W	
⚠R412	1-249-407-11	CARBON	150	5%	1/4W	
R413	1-259-452-11	CARBON	10K	5%	1/6W	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

TUNER

Ref.No.	Part No.	Description			Remark
R421	1-259-476-11	CARBON	100K	5%	1/6W
R422	1-259-468-11	CARBON	47K	5%	1/6W
R451	1-259-476-11	CARBON	100K	5%	1/6W
R452	1-259-468-11	CARBON	47K	5%	1/6W
R454	1-259-500-11	CARBON	1M	5%	1/6W
R455	1-259-428-11	CARBON	1K	5%	1/6W
R456	1-259-476-11	CARBON	100K	5%	1/6W
R457	1-259-428-11	CARBON	1K	5%	1/6W
R458	1-259-476-11	CARBON	100K	5%	1/6W
R459	1-259-452-11	CARBON	10K	5%	1/6W
R460	1-259-440-11	CARBON	3.3K	5%	1/6W
R501	1-259-452-11	CARBON	10K	5%	1/6W
R502	1-259-452-11	CARBON	10K	5%	1/6W
R503	1-259-452-11	CARBON	10K	5%	1/6W
⚠R504	1-249-400-11	CARBON	39	5%	1/4W
⚠R505	1-249-408-11	CARBON	180	5%	1/4W
R511	1-259-422-11	CARBON	560	5%	1/6W
R512	1-259-422-11	CARBON	560	5%	1/6W
R513	1-259-430-11	CARBON	1.2K	5%	1/6W
R514	1-259-416-11	CARBON	330	5%	1/6W
R515	1-259-434-11	CARBON	1.8K	5%	1/6W
R516	1-259-448-11	CARBON	6.8K	5%	1/6W
R517	1-259-444-11	CARBON	4.7K	5%	1/6W
R518	1-259-424-11	CARBON	680	5%	1/6W
R519	1-259-444-11	CARBON	4.7K	5%	1/6W
R521	1-259-440-11	CARBON	3.3K	5%	1/6W
R522	1-259-460-11	CARBON	22K	5%	1/6W
R551	1-259-452-11	CARBON	10K	5%	1/6W
R552	1-259-422-11	CARBON	560	5%	1/6W
R553	1-259-430-11	CARBON	1.2K	5%	1/6W
R554	1-259-416-11	CARBON	330	5%	1/6W
R555	1-259-468-11	CARBON	47K	5%	1/6W
R556	1-259-448-11	CARBON	6.8K	5%	1/6W
R557	1-259-444-11	CARBON	4.7K	5%	1/6W
R603	1-259-460-11	CARBON	22K	5%	1/6W
R604	1-259-460-11	CARBON	22K	5%	1/6W
R605	1-259-460-11	CARBON	22K	5%	1/6W
R606	1-259-460-11	CARBON	22K	5%	1/6W
R611	1-259-452-11	CARBON	10K	5%	1/6W
R612	1-259-452-11	CARBON	10K	5%	1/6W
R613	1-259-452-11	CARBON	10K	5%	1/6W
R615	1-259-452-11	CARBON	10K	5%	1/6W
R616	1-259-452-11	CARBON	10K	5%	1/6W
R617	1-259-452-11	CARBON	10K	5%	1/6W
R618	1-259-452-11	CARBON	10K	5%	1/6W
R620	1-259-452-11	CARBON	10K	5%	1/6W
R621	1-259-452-11	CARBON	10K	5%	1/6W
R622	1-259-452-11	CARBON	10K	5%	1/6W
R623	1-259-452-11	CARBON	10K	5%	1/6W

Ref.No.	Part No.	Description			Remark
R624	1-259-452-11	CARBON	10K	5%	1/6W
R625	1-259-452-11	CARBON	10K	5%	1/6W
R626	1-259-460-11	CARBON	22K	5%	1/6W
R627	1-259-492-11	CARBON	470K	5%	1/6W
R629	1-259-414-11	CARBON	270	5%	1/6W
R630	1-259-380-11	CARBON	10	5%	1/6W
R631	1-259-452-11	CARBON	10K	5%	1/6W
R650	1-259-428-11	CARBON	1K	5%	1/6W
R651	1-259-428-11	CARBON	1K	5%	1/6W
R652	1-259-428-11	CARBON	1K	5%	1/6W
R653	1-259-428-11	CARBON	1K	5%	1/6W
R654	1-259-428-11	CARBON	1K	5%	1/6W
R655	1-259-428-11	CARBON	1K	5%	1/6W
R656	1-259-428-11	CARBON	1K	5%	1/6W
R657	1-259-428-11	CARBON	1K	5%	1/6W
R658	1-259-428-11	CARBON	1K	5%	1/6W
R659	1-259-428-11	CARBON	1K	5%	1/6W
R660	1-259-428-11	CARBON	1K	5%	1/6W
R661	1-259-428-11	CARBON	1K	5%	1/6W
R662	1-259-436-11	CARBON	2.2K	5%	1/6W
R663	1-249-428-11	CARBON	8.2K	5%	1/4W
R664	1-259-428-11	CARBON	1K	5%	1/6W
⚠R801	1-249-401-11	CARBON	47	5%	1/4W
R802	1-259-494-11	CARBON	560K	5%	1/6W
R803	1-259-500-11	CARBON	1M	5%	1/6W
R804	1-259-428-11	CARBON	1K	5%	1/6W
R805	1-259-446-11	CARBON	5.6K	5%	1/6W
R806	1-259-464-11	CARBON	33K	5%	1/6W
R807	1-259-452-11	CARBON	10K	5%	1/6W
R808	1-259-460-11	CARBON	22K	5%	1/6W
R809	1-259-452-11	CARBON	10K	5%	1/6W
R810	1-259-428-11	CARBON	1K	5%	1/6W
R811	1-259-440-11	CARBON	3.3K	5%	1/6W
⚠R901	1-212-865-00	FUSIBLE	22	5%	1/4W F
⚠R902	1-249-413-11	CARBON	470	5%	1/4W
R903	1-259-476-11	CARBON	100K	5%	1/6W
R904	1-259-468-11	CARBON	47K	5%	1/6W
R905	1-259-468-11	CARBON	47K	5%	1/6W
R906	1-259-468-11	CARBON	47K	5%	1/6W

< VARIABLE RESISTOR >

RV221	1-238-601-11	RES, ADJ, CARBON 22K (FM SIGNAL)
RV231	1-238-599-11	RES, ADJ, CARBON 4.7K (NARROW GAIN)
RV232	1-238-596-11	RES, ADJ, CARBON 470 (NARROW DISTORTION)
RV251	1-238-600-11	RES, ADJ, CARBON 10K (MUTE LEVEL)
RV252	1-238-604-11	RES, ADJ, CARBON 220K (FM MUTING)
RV301	1-238-604-11	RES, ADJ, CARBON 220K (STEREO SEPARATION)
RV402	1-238-600-11	RES, ADJ, CARBON 10K (AM SIGNAL)
RV801	1-238-599-11	RES, ADJ, CARBON 4.7K (BPF ADJ)

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

TUNER

Ref.No.	Part No.	Description	Remark
		< RELAY >	
RY151	1-515-614-11	RELAY	
RY152	1-515-614-11	RELAY	
RY153	1-515-614-11	RELAY	
		< TRANSFORMER >	
T251	1-235-126-00	ENCAPSULATED COMPONENT (Germany, ITALIAN)	
T252	1-404-845-11	COIL, DISCRI (PRIMARY)	
T253	1-404-846-11	COIL, DISCRI (SECONDARY)	
T401	1-404-713-11	TRANSFORMER, IF	
		< TERMINAL >	
* TM101	1-537-406-11	TERMINAL BOARD (ANT)	
		< TEST PIN >	
* TP251	1-565-513-11	PIN, CONNECTOR 2P (NULL)	
		< VIBRATOR >	
X501	1-567-826-21	VIBRATOR, CRYSTAL (7.2MHz)	
X601	1-577-359-21	VIBRATOR, CERAMIC (4.19MHz)	
X801	1-577-358-21	VIBRATOR, CERAMIC (4.00MHz)	
**********			
		MISCELLANEOUS	
		**********	
⚠PC901	1-574-383-11	CORD, POWER	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-501-374-11	ANTENNA, LOOP	
	1-558-233-11	CORD (WITH CONNECTOR) (SIRCS) 4P	
	1-558-271-11	CORD, CONNECTION	
	1-559-533-11	CORD, CONNECTION	
	3-755-055-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE) (AEP)	
	3-755-055-41	MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN) (AEP, IT)	
	3-755-055-51	MANUAL, INSTRUCTION (GERMAN) (G)	
*	4-935-823-31	INDIVIDUAL CARTON (AEP, G, IT)	

Ref.No.	Part No.	Description	Remark
		**********	
		HARDWARE LIST	
		**********	
#1	7-621-849-00	SCREW (BV/RING)	
#2	7-682-548-09	SCREW +B 3X8	
#3	7-682-547-09	SCREW +BVTT 3X6 (S)	
#4	7-682-549-09	SCREW +BVTT 3X10 (S)	
#5	7-682-550-04	SCREW +BVTT 3X12 (S)	

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